Bot.
Serials
QK1
.P81

National Museums
of Canada
Ottawa 1973

National Museum
of Natural Sciences

Publications
in Botany, No. 2

The Genus Salix in Alaska and the Yukon

George W. Argus

CALIFORNIA
ACADEMY OF SCIENCES
MAR 2 8 1974
LIBRARY

Publications
de Botanique, nº 2

Musées nationaux
du Canada

Musée national des
Sciences naturelles

SHOUT
SHARE
IT

Digitized by the Internet Archive
in 2011 with funding from
California Academy of Sciences Library

http://www.archive.org/details/publicationsinbo02nati

The [illegible] Guide
to Alaska and the Yukon

The Genus Salix in Alaska and the Yukon

National Museum of Natural Sciences
Publications in Botany, No. 2

Musée national des Sciences naturelles
Publications de botanique, n° 2

Published by the
National Museums of Canada

Publié par les
Musées nationaux du Canada

Staff editor
Frances Smith

The Genus Salix in Alaska and the Yukon

George W. Argus

©Crown copyrights reserved

Available by mail from the
National Museums of Canada
Marketing Services
Ottawa
K1A OM8

Catalogue No. NM95-9/2

National Museum of Natural Sciences
National Museums of Canada
Ottawa, Canada
1973

PO987654321
Y79876543

Printed in Canada

The research on which this study is based was carried out prior to 1969.

Contents

List of Plates, vi
List of Figures, viii
List of Maps, ix
List of Tables, xii
Résumé, xiv
Summary, xv
Biographical Note, xvi
Preface, 1
Taxonomic Relationships, 4
Classification of Salix in Alaska and the Yukon, 5
Hybridization, 6
Polyploidy, 10
Ecology, 13
Eco-geographical Key, 18
Method of Study, 20
Systematic Treatment, 23
Key to the Species, 25
Section 1. *Pentandrae* (Borr.) Schneid., 35
Section 2. *Maccallianae* Argus, 38
Section 3. *Subalbae* Koidz., 41
Section 4. *Longifoliae* Anderss., 43
Section 5. *Chamaetia* Dumort., 45
Section 6. *Retusae* Kern., 49
Section 7. *Glaucae* Pax, 81
Section 8. *Myrtosalix* Kern., 107
Section 9. *Myrtilloides* Koehne, 113
Section 10. *Hastatae* Kern., 119
Section 11. *Cordatae* Barr. ex Hook., 121
Section 12. *Vetrix* Dumort., 149
Section 13. *Arbuscella* Ser. ex Duby, 157
Section 14. *Lanatae* Koehne, 171
Section 15. *Villosae* Rouy, 177
Section 16. *Sitchenses* Bebb, 191

Appendices

A. Key to Codes, 193
B. Specimens Cited, 197
Bibliography, 271
Index to Salix, 275

List of Plates

I
Salix lasiandra Benth., 36

II
Salix maccalliana Rowlee, 40

III
Salix interior Rowlee, 42

IV
Salix reticulata L., 46

V
Salix polaris Wahl., 50

VI
Salix rotundifolia Trautv., 54

VII
Salix nummularia Anderss., 60

VIII
Salix phlebophylla Anderss., 62

IX
Salix ovalifolia Trautv., 64

X
Salix stolonifera Cov., 74

XI
Salix setchelliana Ball, 78

XII
Salix arctica Pall., 80

XIII
Salix sphenophylla Skvortsov, 86

XIV
Salix brachycarpa Nutt., 90

XV
Salix glauca L., 96

XVI
Salix athabascensis Raup, 102

XVII
Salix chamissonis Anderss., 106

XVIII
Salix arctophila Cock. ex Heller, 108

XIX
Salix fuscescens Anderss., 112

XX
Salix pedicellaris Pursh, 114

XXI
Salix hastata L., 118

XXII
Salix rigida Muhl., 122

XXIII
Salix monticola Bebb, 126

XXIV
Salix barclayi Anderss., 128

XXV
Salix hookeriana Barr., 132

XXVI
Salix commutata Bebb, 136

XXVII
Salix novae-angliae Anderss., 138

XXVIII
Salix myrtillifolia Anderss., 142

XXIX
Salix pyrifolia Anderss., 144

XXX
Salix bebbiana Sarg., 148

XXXI
Salix scouleriana Barr., 152

XXXII
Salix planifolia Pursh ssp. *planifolia,* 156

XXXIII
Salix planifolia Pursh ssp. *pulchra* (Cham.) Argus, 160

XXXIV
Salix arbusculoides Anderss., 168

XXXV
Salix lanata L. ssp. *richardsonii* (Hook.) Skvortsov, 170

XXXVI
Salix barrattiana Hook., 174

XXXVII
Salix candida Flügge ex Willd., 176

XXXVIII
Salix alaxensis (Anderss.) Cov., 180

XXXIX
Salix drummondiana Barr., 184

XL
Salix sitchensis Sanson, 190

List of Figures

1
Summary data card, 21

2
The variation of some morphological characteristics in *Salix ovalifolia*, 72

3
The variation in pistil indumentum in *Salix ovalifolia*, 73

4
The variation in stipule and petiole length in *Salix barclayi*, 134

5
A comparison of stipule and petiole length variation in *Salix planifolia*, 165

6
A representative chromatogram of crude leaf extracts in *Salix planifolia*, 166

List of Maps

1
Salix Hybrids, 7

2
Salix Hybrids and Intergrades, 8

3
Salix Intergrade, 9

4
Salix lasiandra, 38

5
Salix maccalliana, 41

6
Salix interior, 44

7
Salix reticulata ssp. *reticulata*, 48

8
Salix reticulata ssp. *glabellicarpa*, 49

9
Salix polaris, 52

10
Salix rotundifolia ssp. *rotundifolia*, 56

11
Salix rotundifolia ssp. *dodgeana*, 57

12
Salix nummularia, 61

13
Salix phlebophylla, 65

14
Salix ovalifolia var. *ovalifolia*, 67

15
Salix ovalifolia var. *arctolitoralis*, 68

16
Salix ovalifolia var. *cyclophylla*, 69

17
Salix ovalifolia var. *glacialis*, 70

18
Salix stolonifera, 76

19
Salix setchelliana, 79

20
Salix arctica, 83

21
Salix sphenophylla, 89

22
Salix brachycarpa ssp. *brachycarpa*, 92

23
Salix brachycarpa ssp. *niphoclada*, 94

24
Salix glauca, Beringia phase (var. *glauca*), 98

25
Salix glauca, Western phase (var. *acutifolia*), 99

26
Salix glauca, Rocky Mountain phase (var. *villosa*), 100

27
Salix athabascensis, 104

28
Salix chamissonis, 110

29
Salix arctophila, 111

30
Salix fuscescens, 116

31
Salix pedicellaris, 117

32
Salix hastata, 121

33
Salix rigida, 124

34
Salix monticola, 127

35
Salix barclayi, 130

36
Salix hookeriana, 135

37
Salix commutata, 139

38
Salix novae-angliae, 141

39
Salix myrtillifolia, 146

40
Salix pyrifolia, 150

41
Salix bebbiana, 151

42
Salix scouleriana, 155

43
Salix planifolia ssp. *planifolia*, 159

44
Salix planifolia ssp. *pulchra* var. *pulchra*, 162

45
Salix planifolia ssp. *pulchra* var. *yukonensis*, 163

46
Salix arbusculoides, 172

47
Salix lanata ssp. *richardsonii*, 173

48
Salix barrattiana, 178

49
Salix candida, 179

50
Salix alaxensis var. *alaxensis*, 182

51
Salix alaxensis var. *longistylis*, 183

52
Salix drummondiana, 187

53
Salix sitchensis, 192

List of Tables

1
Chromosome numbers of *Salix* indigenous to Alaska and the Yukon, 11

2
Comparison table: *Salix polaris, S. rotundifolia, S. stolonifera, S. phlebophylla* and *S. arctica*, 53

3
Comparison table: *Salix rotundifolia* ssp. *rotundifolia* and ssp. *dodgeana*, 58

4
Comparison table: *Salix rotundifolia, S. phlebophylla* and *S. nummularia*, 58

5
Comparison table: *Salix arctica, S. glauca* and *S. brachycarpa*, 87

6
Comparison table: *Salix sphenophylla, S. arctica* and *S. ovalifolia*, 87

7
Comparison table: *Salix brachycarpa* ssp. *brachycarpa*, ssp. *niphoclada* and *S. glauca*, 95

8
Comparison table: *Salix athabascensis* and *S. pedicellaris*, 105

9
Comparison table: *Salix arctophila* and *S. arctica*, 111

10
Comparison table: *Salix pedicellaris* and *S. myrtilloides*, 119

11
Comparison table: *Salix hastata* and *S. barclayi*, 121

12
Comparison table: *Salix rigida, S. monticola* and *S. barclayi*, 125

13
Comparison table: *Salix commutata, S. novae-angliae, S. myrtillifolia* and *S. hastata*, 140

14
Comparison table: *Salix novae-angliae* and *S. myrtillifolia*, 145

15
Comparison table: *Salix scouleriana* and *S. sitchensis*, 157

16
Comparison table: *Salix planifolia* ssp. *planifolia* and ssp. *pulchra*, 167

17
Comparison table: *Salix planifolia* ssp. *planifolia*, ssp. *pulchra* and *S. phylicifolia*, 167

18
Comparison table: *Salix lanata* ssp. *richardsonii*, *S. barclayi* and *S. planifolia* ssp. *pulchra*, 175

19
Comparison table: *Salix drummondiana* and *S. alaxensis* var. *longistylis*, 188

Résumé

Le présent examen du genre *Salix* s'appuie sur des études effectuées sur le terrain et visant à interpréter les espèces en fonction des critères suivants : 1) variations au sein des populations, 2) variations reliées au développement, 3) variations provoquées par le milieu, 4) préférences écologiques et 5) modifications résultant de l'hybridation et de l'introgression. Il se réfère aussi aux spécimens d'herbiers et à la documentation existante.

Trente-neuf espèces aborigènes, deux acclimatées, neuf sous-espèces et onze variétés composent cette flore. Chaque espèce est décrite en détail et les groupes taxonomiques intraspécifiques sont comparés à l'espèce elle-même. Les descriptions, qui se veulent le plus complètes possible, expliquent largement les variations naturelles. L'exposé des problèmes taxonomiques, écologiques et évolutifs se complète d'un résumé des caractéristiques permettant l'identification définitive. En outre, l'ouvrage décrit dans ses grandes lignes la répartition écologique et géographique de chaque groupe taxonomique et la reporte sur une carte appropriée. Une annexe issue de l'ordinateur énumère les spécimens qui font l'objet des descriptions et des cartes. L'ordinateur permet de stocker et de récupérer les données pour ensuite imprimer la liste systématique des spécimens. Voilà une innovation dont on tire à bon compte toute la documentation que comportent les travaux de recherche.

L'un des principaux objectifs du présent ouvrage est de faciliter l'identification des spécimens. Cette opération devient beaucoup plus simple si l'on connaît bien leur répartition et leur écologie. L'auteur a établi une clé éco-géographique qui se fonde sur la localisation. Avec la clé traditionnelle reflétant les traits morphologiques, elle facilitera grandement les travaux d'identification. De plus, des tableaux comparatifs mettent en évidence les caractéristiques qui différencient les espèces apparentées et exposent les difficultés d'ordre taxonomique qu'elles soulèvent.

Les espèces du genre *Salix* forment un ensemble polyploïde dont le nombre des chromosomes somatiques varie de 38 (diploïde) à 224 (dodecaploïde). On connaît le nombre chromosomien de 33 des 50 espèces qui composent cette flore. C'est une donnée précieuse permettant d'établir ou de certifier l'identification dans de nombreux cas. Les tableaux contiennent tous les nombres chromosomiens des espèces de l'Alaska et du Yukon.

L'hybridation naturelle semble beaucoup moins fréquente qu'on ne l'avait cru. Bien que 12 hybrides interspécifiques et plusieurs populations introgressives soient notés, l'influence de l'hybridation ne semble que relativement importante.

On traite également du rôle des espèces du genre *Salix* dans la succession écologique des moraines glaciaires du sud-est de l'Alaska; dans celle des plaines de fusion de la chaîne de l'Alaska; dans celle des alluvions de l'Alaska central et du gravier des plaines alluviales de l'Alaska septentrional.

Summary

The revision of the genus *Salix* which is presented here is based on field studies which attempt to understand the species in terms of the following: 1) population variation, 2) developmental variation, 3) environmentally induced variation, 4) ecological preferences, and 5) modification as a result of hybridization and introgression, as well as on a study of herbarium specimens and the literature.

Thirty-nine native species, two introduced species, nine subspecies, and eleven varieties are recognized in the flora. A detailed description is provided for each species and intraspecific taxa are compared and contrasted with the species. The descriptions attempt to describe the species fully and to account for much of their natural variation. A discussion of taxonomic, ecological, and evolutionary problems includes a summary of diagnostic characteristics. In addition, a general statement of the ecological and geographical distribution of each taxon is included as well as a distribution map. The specimens on which the maps and descriptions are based are cited in a computer-generated appendix. The use of computerized data storage and retrieval methods to prepare this list of specimens is an innovation which permits the complete documentation of research materials at a modest cost.

One of the main objectives of the revision is to facilitate the identification of specimens. Identification can be aided greatly by a knowledge of the distribution and ecology of the specimens. An eco-geographical key, based on the geographical and ecological occurrence of the species, has been devised. The use of this key along with the conventional key based on morphological characteristics will permit much easier identifications than previously has been possible. In addition, species are compared, in tabular form, with related and similar species, and taxonomic problems are discussed.

Salix species form a polyploid complex with somatic chromosome numbers ranging from 38 (diploid) to 224 (dodecaploid). Chromosome numbers are known for 33 of the 50 native taxa in the flora and provide data valuable in making and corroborating taxonomic decisions. All chromosome numbers known for the *Salix* of Alaska and the Yukon are tabulated.

Natural hybridization is apparently less common than has previously been suspected and although 12 interspecific hybrids and several introgressive populations are recognized, the influence of hybridization on species variation is not considered to be of major importance.

The role that *Salix* species play in successional development on glacial moraine in southeastern Alaska, on glacial outwash plains in the Alaska Range, on river alluvium in central Alaska, and on gravel floodplains in arctic Alaska is discussed. Their success as colonizers is based on their growth forms and on their reproductive, evolutionary, and ecological characteristics.

Biographical Note

George William Argus was born and raised in Brooklyn, New York. In 1949 his interest in the North led him to Alaska where he studied geology and biology at the University of Alaska. He received a B.S. degree in 1952. Following two years of military service in Alaska, he entered graduate school at the University of Wyoming and later at Harvard University where he was awarded a Ph.D. degree in biology (plant taxonomy) in 1961. Field research for his dissertation on the taxonomy of the *Salix glauca*-complex in North America took him to Churchill, Manitoba and to the Gaspé Peninsula of Quebec. After graduation he held a National Research Council of Canada post-doctorate fellowship at the University of Saskatchewan for two years.

In 1963 Dr. Argus became a professor in the Departments of Plant Ecology and Biology and an associate of the Institute for Northern Studies at the University of Saskatchewan. During his eight years in Saskatoon he continued his studies on the taxonomy of *Salix* and published papers on the willows of Wyoming and of Wisconsin as well as on the chromosome numbers and taxonomy of Alaskan and Canadian willows. At this time he developed an interest in the boreal flora and conducted research into botanical endemism in the sand dune region of Lake Athabasca. In 1970, after a sojourn as curator of the herbarium at the University of Oregon, he returned to Canada where he was engaged in plant systematics research in the Forest Ecology Institute, Canadian Forestry Service of the Department of the Environment, Ottawa. He is now Associate Curator in the Vascular Plant Section of the National Herbarium (CAN), National Museum of Natural Sciences. In 1971 he became a naturalized Canadian and now lives in Ottawa with his family.

Preface

The genus *Salix* in the flora of Alaska and the Yukon is one of the largest, most widespread, and most taxonomically complex genera. Its antiquity, wide distribution, perennial habit, polyploidy, ability to hybridize, wide ecological amplitude, and morphological plasticity all contribute to its complexity and confer upon it great taxonomical, ecological, and evolutionary interest. However, because of its taxonomic complexities and uncertainties it is often avoided by taxonomists and ecologists and thereby valuable information is lost. The taxonomic problems in *Salix* are not wholly inherent and many can be traced to taxonomists who failed to understand the degree and importance of population variability, or who overemphasized the occurrence of natural hybridization, or who studied specimens as individuals rather than as samples of populations. It was through a desire to contribute to the solution of some of the taxonomic problems that this study was undertaken.

The only world-wide monograph of *Salix* was written in 1868 by N. J. Andersson for the A.P. de Candolle *Prodromus.* Since that time increased collecting and field study, modern taxonomic methods, and new concepts of taxa have made this work obsolete. More recently, monographs have been written for the genus in North America (Schneider 1918-1921; Raup 1943, 1959) and in Europe and Asia (Schneider 1917; Skvortsov 1957, 1961, 1966, 1968; Rechinger 1964). Numerous floristic and monographic works dealing with smaller areas or with portions of the genus have also been prepared. Over the years, *Salix* in Alaska and the Yukon has received considerable attention from taxonomists and phytogeographers. Coville (1900, 1901) published two important papers on the willows of Alaska; Floderus contributed a treatment of the genus to Hultén, *Flora of the Aleutian Islands* (1937); Kimura prepared a treatment for Tatewaki and Kobayashi, *A Contribution to the Flora of the Aleutian Islands* (1934). Through the years, Eric Hultén (1940, 1943, 1967) has paid close attention to the genus, and his most recent treatment contained in his monumental *Flora of Alaska and Neighboring Territories* (1968) has made a significant contribution to our understanding of the taxonomy and phytogeography of *Salix.* Hugh Raup, on the basis of field studies conducted along the Alaska Highway, on his wide experience, and on extensive herbarium collections, prepared a treatment of the willows of boreal western America (1959) which summarized our understanding of the genus up to that time. In 1964 Cronquist published a treatment of *Salix* in *Vascular Plants of the Pacific Northwest,* treating a large number of species which occur in Alaska and contributing a fresh point of view to their taxonomy. Monographs dealing with sections or with species complexes have been prepared by Crovello (1968) for the section *Sitchenses* and by Argus (1965*a*) for the *Salix glauca*-complex.

However, in spite of this attention, many of the *Salix* species in Alaska and the Yukon are still not well understood. The present work grew out of a study started in 1966 which was designed to resolve some of the taxonomic problems associated with the dwarf, arctic species. At that time I was also asked to contribute a treatment of *Salix* to the revision of Anderson's *Flora of Alaska and Adjacent Parts of Canada* being prepared by S.L. Welsh. Initially the treatment was to be brief — more a compilation than a revision. However, as specimens were studied and field-work was undertaken it became evident that a revision would not only be possible but highly desirable. The primary purposes of this study are: 1) to provide a workable taxonomic treatment of *Salix* in Alaska and the Yukon, and 2) to contribute to the understanding of each taxon, including its morphology, variation, ecology, and distribution.

More than 3,000 herbarium specimens were studied in this investigation and over 2,000 specimens were studied and collected in the field. The collections were studied at the University of Saskatchewan (SASK). Loans of all *Salix* from Alaska and the Yukon were obtained from the University of Alaska (ALA) and Iowa State University, including the J.P. Anderson collection (ISC); selected specimens and types were obtained from the Plant Research Institute, Ottawa (DAO), the University of Minnesota (MIN) and the Rocky Mountain Herbarium, University of Wyoming (RM); visits were made to the Arnold Arboretum (A), the National Herbarium of Canada (CAN), the Chicago Natural History Museum (F), the Gray Herbarium (GH), the University of Michigan (MICH), the U.S. National Arboretum (NA), the New York Botanical Garden (NY), and the U.S. National Museum (US) to study type specimens, to obtain range data, and to select loans for special study. All specimens cited in Appendix B as located in GWA (Argus personal herbarium) have been deposited in CAN, and representative specimens are located at SASK, ALA, US, GH, the Naturhistoriska Riksmuseum, Stockholm, Sweden, and the Botanical Garden Herbarium, University of Moscow, U.S.S.R. I am indebted to the curators of these institutions for making available materials and facilities for study. I am also indebted to L. Viereck, D.B. Murray, W. Klein, W. Drury, S.L. Welsh, and M. Williams for placing their recent Alaska and Yukon collections at my disposal.

My experience with the willows of Alaska dates from 1952 when I collected the alpine flora on nunataks of the Juneau Icefield. This was followed by trips to the Kennecott region in 1955, and by extensive collecting in central Alaska in 1956 and 1957, in Mount McKinley Park in 1956, and along the Alaska Highway in 1956 and 1966. In 1966 my assistant Walter Chunys and I were accompanied by Dr. Yutaka Suda, the cytologist, to the Arctic Research Laboratory at Barrow, Alaska. There, through the invaluable logistical support provided by Drs. M. Brewer and J. Schlindler, we were able to visit Barrow, Meade River, Cape Beaufort, Nuvagapak Point, and Bullen on the Arctic slope of Alaska. In 1967 we visited southeastern coastal Alaska, travelling to Yakutat with the assistance of R. Hurd, U.S. Forest Service; to Glacier Bay, where we received logistical support from R. Howe of the U.S. National Park Service; and to Haines, Juneau, Sitka, Petersburg, Wrangell, and Ketchikan.

Preface

As is usual in studies covering a large geographical area, it was necessary to rely heavily on the knowledge, experience, and hospitality of many people. I would particularly like to acknowledge Les and Teri Viereck, College, Alaska; Keith and Betty Lou Hart, Juneau; M. Perensovich, Juneau; and C. Jonda, Glacier Bay; Walter Chunys, whose accomplished outdoor skills and fine companionship did much to ensure the success of the field research in 1966 and 1967; Yutaka and Sumi Suda, who accompanied us to Alaska in 1966; Jo Whitehorn, who spent many long hours looking up specimen latitude and longitude to upgrade the herbarium label data and supervising the keypunching of the summary data cards; and my wife, Mary, who undertook yeoman service while we were en route to Alaska in 1966.

The base map is used with the permission of the Canada Department of Mines and Technical Surveys. Assistance in mapping data was provided by Eric Argus, Michael Argus, and M.L. Anderson. The final maps were drafted by the Canada Department of the Environment, Cartographic Section, under the supervision of J. Brittain. The computer print-out used in the Appendices was produced by the Canada Department of the Environment, Biometrics and Computer Science Branch, under the supervision of J. Barnabe.

The research was supported by grants from the National Research Council of Canada (A1955), the Arctic Institute of North America (ONR-390) under contractual arrangements with the U.S. Office of Naval Research, and from the Institute for Northern Studies, University of Saskatchewan.

Taxonomic Relationships

One of the weakest links in the classification of *Salix* is the organization of species into sections. I am not at all confident that it is possible, with our present knowledge, to recognize meaningful sectional groupings, and a strong argument could be made for following the method used by Raup (1959) and simply group related species, assigning them informal "group" names. However, in this study I used sectional nomenclature, recognizing the difficulties and pitfalls involved in this method. I have not attempted to typify the sectional names, but rather selected names in common use by Schneider (1921) and Skvortsov (1968).

The sections are arranged according to a reductional series in stamen number, starting with section *Pentandrae* having more than two stamens, followed by the sections with two stamens and ending with section *Sitchenses* having one stamen. Within the sections with two stamens, section *Maccallianae* is first, indicating a presumed relationship with section *Pentandrae,* followed by sections *Subalbae* and *Longifoliae.* The latter section is assumed to be among the more primitive sections because of the occurrence of branched aments (Argus 1964). These sections are followed by those containing dwarf or low-growing species and their relatives, and then by sections containing taller, erect shrubs. This arrangement of sections cannot be interpreted in phylogenetic terms — except perhaps for the reductional series in stamen number — but only as a convenient way to arrange groups of presumably related species.

Classification of Salix in Alaska and the Yukon

Section 1. *Pentandrae* (Borr.) Schneid.
1. *S. pentandra* L.
2. *S. lasiandra* Benth.

Section 2. *Maccallianae* Argus
3. *S. maccalliana* Rowlee

Section 3. *Subalbae* Koidz.
4. *S. babylonica* L.

Section 4. *Longifoliae* Anderss.
5. *S. interior* Rowlee

Section 5. *Chamaetia* Dumort.
6. *S. reticulata* L.
    - ssp. *reticulata*
    - ssp. *glabellicarpa* Argus

Section 6. *Retusae* Kern.
7. *S. polaris* Wahl.
8. *S. rotundifolia* Trautv.
    - ssp. *rotundifolia*
    - ssp. *dodgeana* (Rydb.) Argus
9. *S. nummularia* Anderss.
10. *S. phlebophylla* Anderss.
11. *S. ovalifolia* Trautv.
    - var. *ovalifolia*
    - var. *arctolitoralis* (Hult.) Argus
    - var. *cyclophylla* (Rydb.) Ball
    - var. *glacialis* (Anderss.) Argus
12. *S. stolonifera* Cov.
13. *S. setchelliana* Ball

Section 7. *Glaucae* Pax
14. *S. arctica* Pall.
15. *S. sphenophylla* Skvortsov
16. *S. brachycarpa* Nutt.
    - ssp. *brachycarpa*
    - ssp. *niphoclada* (Rydb.) Argus
17. *S. glauca* L.
    - var. *glauca*
    - var. *acutifolia* (Hook.) Schneid.
    - var. *villosa* (Hook.) Anderss.
18. *S. athabascensis* Raup

Section 8. *Myrtosalix* Kern.
19. *S. chamissonis* Anderss.
20. *S. arctophila* Cock.

Section 9. *Myrtilloides* Koehne
21. *S. fuscescens* Anderss.
22. *S. pedicellaris* Pursh.

Section 10. *Hastatae* Kern.
23. *S. hastata* L.

Section 11. *Cordatae* Barr. ex Hook.
24. *S. rigida* Muhl.
25. *S. monticola* Bebb
26. *S. barclayi* Anderss.
27. *S. hookeriana* Barr.
28. *S. commutata* Bebb
29. *S. novae-angliae* Anderss.
30. *S. myrtillifolia* Anderss.
31. *S. pyrifolia* Anderss.

Section 12. *Vetrix* Dumort.
32. *S. bebbiana* Sarg.
33. *S. scouleriana* Barr.

Section 13. *Arbuscella* Ser. ex Duby
34. *S. planifolia* Pursh
    - ssp. *planifolia*
    - ssp. *pulchra* (Cham.) Argus
        - var. *pulchra*
        - var. *yukonensis* (Schneid.) Argus
35. *S. arbusculoides* Anderss.

Section 14. *Lanatae* Koehne
36. *S. lanata* L.
    - ssp. *richardsonii* (Hook.) Skvortsov
37. *S. barrattiana* Hook.

Section 15. *Villosae* Rouy
38. *S. candida* Flügge ex Willd.
39. *S. alaxensis* (Anderss.) Cov.
    - var. *alaxensis*
    - var. *longistylis* (Rydb.) Schneid.
40. *S. drummondiana* Barr.

Section 16. *Sitchenses* Bebb
41. *S. sitchensis* Sanson

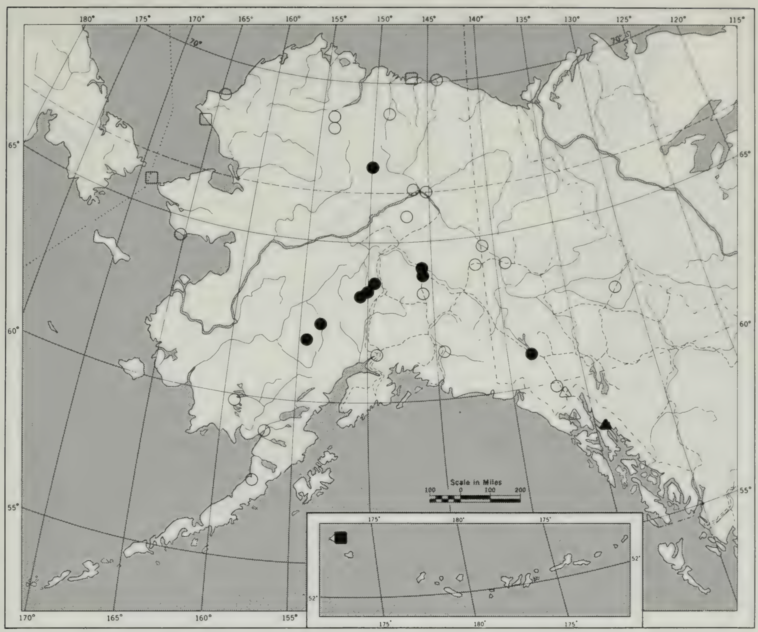
The genus *Salix* is frequently cited as an example of a taxonomically complex genus in which hybridization is at the root of many, if not most, of its taxonomic problems. Evidence supporting the occurrence of hybridization in *Salix* is based on: 1) the extensive hybridization experiments conducted by Heribert-Nilsson (1918, 1930); and 2) the occurrence of polyploidy, presumed to be largely of the alloploid type.

Heribert-Nilsson's artificial hybridizations and experiments in species-making were very extensive and proved that hybrids are easily formed between species, particularly those with the same chromosome number and within the same section. Chromosome homology between species in the same section was subsequently shown to be high (Hakansson 1955), and remarkably good chromosome pairing was found even in 10- and 12-hybrids. Heribert-Nilsson also demonstrated the potential for new stabilized species to arise by the segregation and recombination which occurs during hybridization, citing the production of the "trigena-type" from the cross (*S. repens* × *phylicifolia*) × (*S. viminalis* × *phylicifolia*) and the natural occurrence of *S. arctogena* Flod. in northern Sweden derived from the cross *S. herbacea* × *polaris.*

In 1918 he stressed the observation that sometimes the offspring of crosses did not resemble one or either of the parents and that conclusions concerning the origin of these "extravagant" forms based on external morphology alone were likely to be erroneous. He cited as examples, certain shrubs of the cross *S. viminalis* × *caprea* which morphologically resemble the hybrids *S. viminalis* × *cinerea, S. viminalis* × *aurita, S. aurita* × *repens* and *S. repens* × *viminalis;* specimens of the hybrid (*S. cinerea* × *purpurea*) × *S. caprea* that could be mistaken for a *S. phylicifolia* hybrid and one plant of the cross (*S. cinerea* × *purpurea*) × (*S. purpurea* × *viminalis*) which diverged so widely from the parents that its origin would be doubtful. Although Heribert-Nilsson was very successful in producing artificial hybrids, he was sceptical about the permanence of the new forms, believing that they would be rapidly exterminated by nature.

The recognition and taxonomic treatment of natural hybridization has been the subject of considerable dispute and is not yet resolved. Standing at one extreme was the Swedish salicologist, B. Floderus (1926), who tended to treat most arctic and subarctic *Salix* populations as large, polymorphic hybrid populations, restricting species rank to more or less pure populations. Du Rietz (1930) noted that there were obvious dangers in assigning triple and quadruple hybrid names, as Floderus had done, to complex populations even if the occurrence of "exaggerant" forms was exaggerated by Heribert-Nilsson. He suggested as an alternative approach that highly polymorphic populations could be treated, without reference to their hybrid origin, as a single species subdivided into subspecies, varieties and forms. He noted, however, that this could result in the undesirable lumping together of widely divergent types. A second alternative, used widely today, is to hold a less rigid species concept than the Floderan one and to recognize as hybrids only those forms clearly intermediate between the "pure" species.

In 1959 Raup argued that since the recognition of most hybrids was based on the inspection and com-



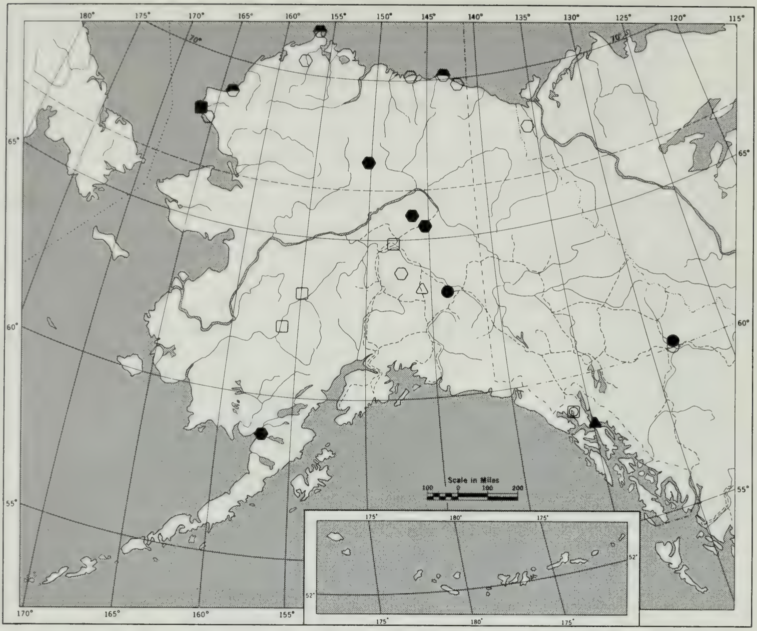
MAP 1 *Salix* Hybrids.

■ *arctica* x *glauca*
☐ *arctica* x *ovalifolia*
▲ *arctica* x *barclayi*
△ *arctica* x *stolonifera*
● *brachycarpa* ssp. *niphoclada* x *glauca*
○ *brachycarpa* ssp. *niphoclada* x *glauca* (Argus 1965a)

parison of small numbers of specimens, which could not be subjected to modern studies of introgression and hybridization, it is more appropriate to group such specimens with the species they most nearly resemble. He writes,

> The recognition of hybrids among the willows by simple comparison of a few specimens, if carried to its logical conclusion, can lead to utter taxonomic confusion where this is not warranted.

In this study I have attempted to appraise hybridization and introgression in terms of: 1) discordant variation in several morphological characteristics, 2) signs of infertility, and 3) the sympatric occurrence of the putative parents. Where hybrids or introgressants are recognized I provide documentation to support such a conclusion. In the flora of Alaska and the Yukon the following hybrids are recognized: *Salix arctica* × *glauca*, *S. arctica* × *ovalifolia*, *S. arctica* × *barclayi*, *S. arctica* × *stolonifera* and *S. brachycarpa* ssp. *niphoclada* × *glauca* (Map 1); *S. phlebophylla* × *rotundifolia*, *S. athabascensis* × *pedicellaris*, *S. barclayi* × *commutata*, *S. barclayi* × *lanata* ssp. *richardsonii*, *S. barclayi* × *stolonifera*, *S. planifolia* ssp. *pulchra* × *scouleriana* and *S.*



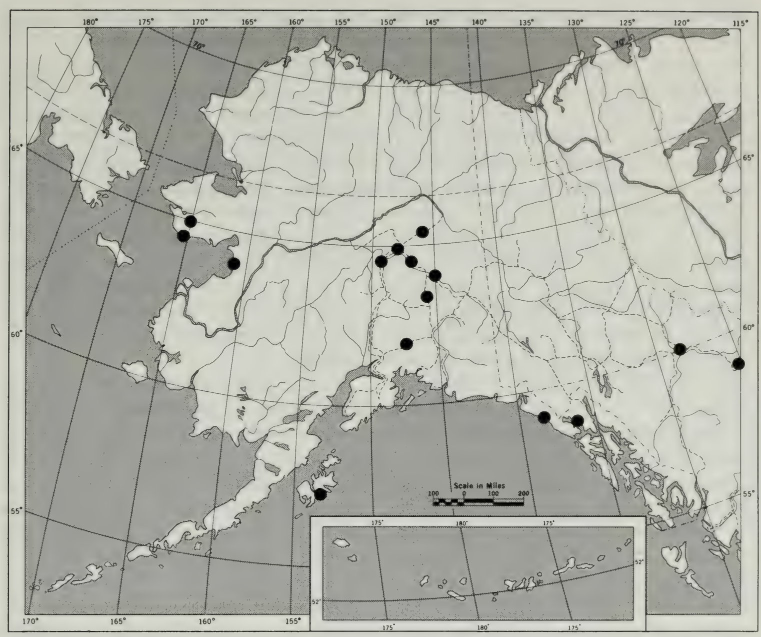
MAP 2 *Salix* Hybrids and Intergrades.

- ⬢ *phlebophylla* x *rotundifolia*
- ⬡ *rotundifolia* > *phlebophylla*
- ⬣ *phlebophylla* x *rotundifolia* and *rotundifolia* > *phlebophylla*
- ● *athabascensis* x *pedicellaris*
- ◎ *pedicellaris* > *athabascensis*
- ▲ *barclayi* x *commutata*
- △ *barclayi* x *lanata* ssp. *richardsonii*
- ○ *barclayi* x *stolonifera*
- ☐ *planifolia* ssp. *pulchra* x *scouleriana*
- ■ *alaxensis* var. *alaxensis* x *lanata* ssp. *richardsonii*

alaxensis var. *alaxensis* × *lanata* ssp. *richardsonii* (Map 2). Four of these hybrids are based on studies of large population samples in the field and in the herbarium (*S. phlebophylla* × *rotundifolia, S. arctica* × *stolonifera, S. athabascensis* × *pedicellaris, S. barclayi* × *stolonifera*), whereas the others are based on isolated specimens.

The following intergrades, which are apparently the result of hybridization and introgression, are recognized: *S. rotundifolia* > *phlebophylla* and *S. pedicellaris* > *athabascensis* (Map 2); *S. alaxensis* var. *alaxensis*> *alaxensis* var. *longistylis* (Map 3).

I am unable to recognize most of the hybrids recorded for Alaska and the Yukon by Hultén (1968). His suggestions that *S. glacialis* (*S. ovalifolia* var. *glacialis*) = *S. arctica* × *ovalifolia,* that *S. myrtillifolia* var. *pseudomyrsinites* (*S. novae-angliae*) = hybrid forms, that the glabrescent forms of *S. commutata* and *S. arbusculoides* are probably of hybrid origin, and that *S. reticulata* ssp. *glabellicarpa* is a possible hybrid are unsubstantiated and highly speculative. In my field experience natural hybridization was encountered infrequently,


Scale in Miles
100
0
100
200
180°
175°
170°
165°
160°
155°
150°
145°
140°
135°
130°
125°
120°
115°
70°
65°
60°
55°
52°

MAP 3 *Salix* Intergrade.

● *alaxensis var. alaxensis > var. longistylis*

supporting the view that hybridization and introgression, although present in *Salix*, are not the major causes of its variability.

Polyploidy

Chromosome numbers based on the species in the flora of Alaska and the Yukon reveal a polypoid series including: 2*x*, 3*x*, 4*x*, 5*x*, 6*x*, 8*x*, 10*x* and 12*x* (Table 1). These numbers are primarily derived from the basic number 19, although a parallel series based on number 22 is known in *Salix* and the count reported for *S. rigida* is based on this number. The polyploid series probably represents, for the most part, alloploidy, a conclusion supported by the experimental production of tetraploid *S. cinerea* from crosses between the diploids *S. caprea* and *S. viminalis* (Hakansson 1955); but the possible occurrence of segmental allopolyploidy and autopolyploidy cannot be discounted.

Intraspecific variation in chromosome number is known, in our flora, for *Salix maccalliana, S. rotundifolia, S. arctica, S. pedicellaris, S. hastata, S. sphenophylla* and *S. scouleriana*, and intrapopulation variation is known to occur in *S. glauca, S. athabascensis* and *S. planifolia* ssp. *planifolia.* This variation in chromosome number, when unaccompanied by significant morphological differences, may be the result of autopolyploidy (Hakansson 1955). However, this remains to be proved. The taxonomic importance of this variation is that it emphasizes the need for many more chromosome counts, even for those species that have already been counted, before these data can be used with confidence in classification.

Many of the polyploid species, such as *Salix glauca, S. arctica, S. scouleriana* and *S. planifolia* are highly variable morphologically and have wide distributional ranges. This variability may be explained in terms of a rich environmental diversity (see *S. arctica* for discussion), or by repeated intergenomic exchange resulting in new linkage relationships and new position effects (Mosquin 1966), or may be due to polyphylesis. It is very likely that many *Salix* polyploids have arisen several times (polychronism) and in several places (polytopism) in the past, and it is probable that some are actively evolving now. The possibility of the polyphyletic origin of species is receiving serious attention in the taxonomic literature (*see* Davis and Heywood 1963 and Cain 1944 for review) and the proof of its occurrence in *Salix* will have important taxonomic implications.

In this study chromosome numbers have been of assistance in making certain decisions concerning species relationships. For example, the relationship between *Salix brachycarpa* ssp. *brachycarpa* and ssp. *niphoclada* has been supported by their common diploid chromosome number, and their differentiation from the tetraploid-hexaploid *S. glauca* has been affirmed. Similarly, *S. planifolia* ssp. *planifolia* and ssp. *pulchra* share a common tetraploid chromosome number in contrast to the hexaploid (or tetraploid on basic number 22) *S. phylicifolia.* It is the heuristic value of chromosome number data that makes them so important to the taxonomists, and our hopes for an improved classification of *Salix* depend upon obtaining further chromosomal and cytological data.

Table 1 Chromosome Numbers of *Salix* Indigenous to Alaska and the Yukon

Species	2*n*	Geographic Origin	References
Sect. *Pentandrae*			
S. lasiandra	76	California(?)	Wilkinson 1944
Sect. *Maccallianae*			
S. maccalliana	ca. 190, 224	Saskatchewan	Suda and Argus 1968
Sect. *Longifoliae*			
S. interior	38	Saskatchewan	Suda and Argus 1968
Sect. *Chamaetia*			
S. reticulata	38	Alaska	Suda and Argus 1969, Johnson and Packer 1968
	38	N.W.T.	Hedberg 1967
	38	Manitoba(?)	Löve 1954
	38	U.S.S.R	Sokolovskaja and Strelkova 1941, 1960, Zhukova 1967
	38	Scandinavia	Holmberg 1931
Sect. *Retusae*			
S. polaris	76	Scandinavia	Holmberg 1931
S. rotundifolia	38	Alaska	Johnson and Packer 1968
	114	U.S.S.R.	Zhukova 1968
S. nummularia	38	U.S.S.R.	Zhukova 1969
S. phlebophylla	38	Alaska	Suda and Argus 1969
	38	U.S.S.R.	Zhukova 1967
S. ovalifolia			
var. *ovalifolia*	38	Alaska	Suda and Argus 1969, Johnson and Packer 1968
Sect. *Glaucae*			
S. arctica	76	Alaska	Johnson and Packer 1968
	76	N.W.T.	Mosquin and Hayley 1966
	76	Greenland	Suda and Argus 1968, Holmen 1952
	114	Alaska	Suda and Argus 1969
	ca. 120	U.S.S.R.	Sokolovskaja and Strelkova 1948
S. sphenophylla	38	U.S.S.R.	Zhukova 1969
	52-54	U.S.S.R.	Zhukova 1968
S. brachycarpa			
ssp. *brachycarpa*	ca. 38	Manitoba	Argus 1965*a*
	38	Saskatchewan	Suda and Argus 1968
ssp. *niphoclada*	ca. 38	Alaska	Johnson and Packer 1968
S. glauca	76, 95, 114	Alaska	Suda and Argus 1969
	ca. 76	Alaska	Johnson and Packer 1968
	114	Alberta	Suda and Argus 1968
	152	Europe	Löve 1954
	152	Scandinavia	Holmberg 1931, Löve and Löve 1948
	176	Scandinavia	Wilkinson 1944
	190	Manitoba(?)	Löve 1954 (as *cordifolia* s.l.)
	190	Iceland	Löve and Löve 1956 (as *callicarpaea*)
S. athabascensis	ca. 76, 95, 114	Manitoba	Argus 1965*a* (as *glauca*)
	76	Yukon	Suda and Argus 1969
	114	Saskatchewan	Suda and Argus 1969
Sect. *Myrtosalix*			
S. chamissonis	114	U.S.S.R.	Zhukova 1968
S. arctophila	76	Greenland	Jorgensen, Sørensen, and Westergaard 1958

Species	2*n*	Geographic Origin	References
Sect. *Myrtilloides*			
S. fuscescens	38	Alaska	Suda and Argus 1969, Johnson and Packer 1968
	38	U.S.S.R.	Zhukova 1967
S. pedicellaris	38	Manitoba(?)	Löve 1954
	57	Yukon	Suda and Argus 1969
	76	Manitoba	Löve and Ritchie 1966
Sect. *Hastatae*			
S. hastata	38	Scandinavia	Holmberg 1931
	38	U.S.S.R.	Zhukova 1967
	ca. 110	U.S.S.R.	Sokolovskaja and Strelkova 1960
Sect. *Cordatae*			
S. rigida	44	?	Wilkinson 1944 (as *cordata*)
S. monticola	38	Saskatchewan	Suda and Argus 1968
S. myrtillifolia	38	Saskatchewan	Suda and Argus 1968
Sect. *Vetrix*			
S. bebbiana	38	Manitoba(?)	Löve 1954
S. scouleriana	76	Saskatchewan	Suda and Argus 1968
	ca. 114	B.C.	Taylor and Mulligan 1968
Sect. *Arbuscella*			
S. planifolia			
ssp. *planifolia*	57	Yukon	Suda and Argus 1969
	57, 76	Saskatchewan	Suda and Argus 1968
	76	New Hampshire	Löve and Löve 1964
	152	Manitoba(?)	Löve 1954
ssp. *pulchra*	ca. 76, 76	Alaska	Johnson and Packer 1968
	76	Alaska	Suda and Argus 1969
	76	U.S.S.R.	Zhukova 1967, 1968, 1969
S. arbusculoides	38	Alaska	Suda and Argus 1969
	38	Saskatchewan	Suda and Argus 1968
Sect. *Lanatae*			
S. lanata			
ssp. *richardsonii*	38	U.S.S.R.	Zhukova 1969
Sect. *Villosae*			
S. candida	38	Saskatchewan	Suda and Argus 1968
S. alaxensis			
var. *alaxensis*	38	Alaska	Suda and Argus 1969, Johnson and Packer 1968
	38	U.S.S.R.	Zhukova 1967, 1969
S. drummondiana	57	Saskatchewan	Suda and Argus 1968 (as *subcoerulea*)
Sect. *Sitchenses*			
S. sitchensis	38	B.C.	Taylor and Mulligan 1968

In Alaska and the Yukon *Salix* species occupy a wide variety of habitats from forests to tundra and from wet bogs and marches to dry sandy forests, talus slopes and rock outcrops. These habitats are extremely diverse in terms of moisture and nutrient regimen and in species composition, but they have one important common attribute, namely, they are subject to change. This change may take the form of physical disturbance or of a labile successional stage. The relationship of *Salix* to habitat instability has long been known and willows are characteristically associated with seasonally disturbed river floodplains, gravel outwash plains, glacial moraines, fire disturbance, frost disturbed arctic and alpine tundra, and sites of human disturbance. They are also known to be components of labile successional stages often appearing in the earliest stages and becoming less and less important as vegetational succession leads to a relatively stable, mature vegetation.

An example of the role *Salix* plays in successional development on glacial moraine in southeastern Alaska, on glacial outwash in the Alaska Range, and on river alluvium in central and northern Alaska will illustrate this generalization.

Succession on Glacial Moraine

This account of the successional development on glacial moraine in southeastern Alaska is based on observations made at Muir Inlet, Glacier Bay National Monument in 1967, and on work done by Decker (1966).

Stage 1. Recently uncovered glacial moraine near the ice front. No vegetational development except for seedlings of *Epilobium latifolium, Dryas drummondii, Salix reticulata, S. stolonifera, S. arctica, S. commutata, S. alaxensis, S. barclayi* and *S. sitchensis.*

Stage 2. Glacial moraine vegetated by separate, often circular, *Dryas* mats interspersed with lichens and the willows *Salix stolonifera, S. reticulata* (in lichen mats), *S. arctica* (usually in *Dryas* mats), *S. commutata, S. alaxensis, S. barclayi,* and *S. sitchensis.*

Stage 3. *Dryas* forms an almost continuous mat interspersed with shrubs of *Alnus incana* and *Salix commutata, S. alaxensis, S. barclayi* and *S. sitchensis*. The dwarf species, *Salix arctica,* often occurs under clumps of *Alnus* and under taller *Salix.*

Stage 4. A young *Alnus-Salix* thicket about 3 m tall. The same *Salix* species are present as in Stage 3 but *S. arctica* and *S. commutata* are less frequent.

Stage 5. A dense *Alnus* thicket with saplings of *Picea* and *Populus.* The only *Salix* present are *S. barclayi* and *S. sitchensis.*

Stage 6. In this stage succession has led to a young *Picea sitchensis* forest in which *Salix sitchensis* is the last surviving species of willow. As this forest type matures even *Salix sitchensis* is eliminated except for its occurrence in forest openings and along stream margins.

In general all the willow species in this example occur in the pioneer stages of vegetational development. As taller and taller shrubs invade the area, the dwarf willows are the first to be eliminated with only *Salix arctica* able to survive even under tall alder (Stage 4). The next to be eliminated is the low shrubby species, *S. commutata,* followed by *S. alaxensis* and *S. barclayi* and finally by *S. sitchensis.* The latter species is the only willow that occurs in this area from the fresh moraine up to the young *Picea* forest stage. In the early stages of vegetational succession, *Salix sitchensis* may be a prostrate or a very low-growing shrub, later producing erect branches and finally reaching a height of about 4 m tall. In the mature *Picea sitchensis-Tsuga heterophylla* forests few shrubs of any kind occur. However, the *Salix* that do occur there are always associated with forest openings, water courses and human disturbance.

The characteristics of these species that permit their rapid establishment on glacial moraine include the production of abundant, wind-borne seeds and rapid seed germination (Argus 1965*a*). Their elimination from the later successional stages is probably related, at least in part, to their growth habit. The dwarf species are eliminated as soon as they are overtopped by taller shrubs which shade them and which lead to a more rapid aggradation of the soil surface due to the accumulation of organic debris. The smaller shrubs are next shaded out and the longest surviving species, such as *Salix sitchensis*, are those which are able to remain in the canopy for the longest time.

Succession on Glacial Outwash

Viereck (1966) describes the vegetational succession on gravel outwash in Mount McKinley National Park, Alaska.

1. Pioneer Stage. Outwash plain vegetated by mats of *Dryas drummondii* and *D. integrifolia* and the willows, *Salix alaxensis* var. *alaxensis, S. myrtillifolia, S. brachycarpa* ssp. *niphoclada, S. glauca* and *S. setchelliana.* On the basis of my experience elsewhere, I would suspect that in this stage seedlings of all the *Salix* species that are to follow would be present; but the identification of willow seedlings is difficult and they may be easily missed.

2. Meadow Stage. *Elymus-Festuca-Poa* meadow. The two low-growing species, *S. myrtillifolia* and *S. setchelliana,* present in stage 1 are absent and several taller species, including *S. lanata* ssp. *richardsonii, S. planifolia* ssp. *pulchra* and *S. barrattiana* are present for the first time. The dwarf species, *S. reticulata,* is also reported in this stage but its occurrence is erratic and its frequency is low.

3. Early Shrub Stage. In the early *Betula glandulosa* shrub stage, two additional tall *Salix* enter the picture, *S. arbusculoides* and *S. barclayi.*

4. Late Shrub Stage. In general, all the *Salix* in stages 2 and 3 persist through the late shrub stage although, as the *Betula glandulosa* thicket becomes more dense, several of these species decline in importance.

5. Climax Tundra. In the *Eriophorum-Betula glandulosa* tundra the only willow present is *Salix glauca;* however, this species is now erratic and infrequent.

Succession on River Alluvium in Central Alaska

In central Alaska, the role of *Salix* in succession on silty-sandy alluvial deposits follows a similar pattern of invasion and dominance in the early successional stages, followed by decline and elimination. Pioneer vegetation on silty-sandy bars is dominated by *S. alaxensis* in association with *S. arbusculoides, S. lasiandra* and *S. planifolia* ssp. *pulchra* var. *yukonensis.* As the site becomes more stabilized and the thicket increases in height and density, *S. lasiandra* and *S. planifolia* are eliminated. *Salix alaxensis* and *S. arbusculoides* may dominate such a site for a considerable period of time, reaching a height of 7-9 m and obtaining a circumference near the base of 5-10 dm. *Populus balsamifera* and *Picea glauca* then invade the site, eventually dominating it and eliminating the willows. In mature *Picea glauca* forests, *Salix bebbiana* may occur in forest openings produced by fallen trees or snow breakage but the original, pioneer *Salix* are absent.

Succession on River Alluvium in Northern Alaska

Bliss and Cantlon (1957) studied the vegetational succession on the Colville River at Umiat, Alaska, recognizing four plant communities.

1. Perennial Herb Community. Succession is initiated on pockets of sand and silt on the bare floodplain gravels. The pioneer species include the herbs, *Crepis nana, Erigeron purpuratus, Epilobium latifolium,* et al., and the willows, *Salix alaxensis* var. *alaxensis, S. arbusculoides* and *S. glauca.*

2. Young Felt-Leaf Willow Community. On the next terrace vigorous stands of *Salix alaxensis* develop, in association with *S. glauca, S. hastata, S. arbusculoides* and *S. lanata* ssp. *richardsonii.*

3. Decadent Felt-Leaf Willow Community. In this community *Salix alaxensis* is still the dominant species but there are many dead stems present. There is an increase in the importance of *S. arbusculoides* and *S. glauca; S. hastata* is absent and *S. brachycarpa* ssp. *niphoclada* is present for the first time.

4. Terrace Communities. The vegetation on the higher terraces is composed of a mixture of shrubby, dwarf heath meadow and marsh types. *Salix planifolia* ssp. *pulchra* is the dominant shrub and is associated with *S. lanata* ssp. *richardsonii, S. glauca* and *S. arbusculoides.* The willows *S. alaxensis, S. hastata* and *S. brachycarpa* ssp. *niphoclada* are absent in this relatively undisturbed vegetation type.

Succession on Arctic Floodplain

On the arctic coast of Alaska at Cape Beaufort, a transect from the sandy-gravel floodplain of a creek to the upper terrace reveals a change in the *Salix* species composition (Argus, unpublished).

1. Floodplain. On the floodplain of the creek, frequently disturbed by flooding and the resulting erosion and siltation, *Salix alaxensis* var. *alaxensis* is the dominant species in thickets 1-2 m tall and is associated with occasional low shrubs of *S. hastata.*

2. First Terrace. At the level of the first terrace an organic turf develops over the gravel, and the vegetation consists of an open *Salix alaxensis* thicket with the shrubby *S. lanata* ssp. *richardsonii* and the dwarf willows, *S. rotundifolia, S. reticulata* and, rarely, *S. arctica.* The dwarf willows grow in the turf within openings in the *Salix* thicket.

3. Second Terrace. The drier second terrace is dominated by a *Salix glauca, S. planifolia* ssp. *pulchra* thicket, 3-6 dm tall, with the dwarf *S. phlebophylla* and *S. reticulata* in the openings.

4. Tussock Meadow. An *Eriophorum, Arctagrostis* tussock meadow develops on the upper terrace. The dominant shrub is *Salix planifolia* ssp. *pulchra,* and *S. fuscescens* grows in the wet depressions between the tussocks.

In the Cape Beaufort area the taller *Salix* occupy the open floodplains where drainage is better and where the depth to permafrost is greater. The dwarf species occur in the relatively stable vegetation in which disturbance and siltation are minimal and where drainage is still good. In the poorly drained vegetation only *Salix planifolia* ssp. *pulchra* is common and *Salix fuscescens* is restricted to the wettest habitats.

Colonizing Attributes of Salix

Ehrendorfer (1965) developed three models of successful colonizers based on habit and on reproductive, evolutionary, and ecological factors. The habitat requirements of *Salix* correspond very closely to those of Ehrendorfer's type 1 colonizer, the perennial polyploid type which occurs in "labile successional stages or open facies of otherwise more or less closed associations" or in secondary communities opened by man. A comparison of *Salix* with the characteristics of Ehrendorfer's type 1 colonizer may help explain its great success as a colonizer and its rapid geographical expansion. In the following discussion I will cite the factor to be considered, followed by the general characteristics exhibited by Ehrendorfer's type 1 colonizer in brackets and a discussion of the factor as it occurs in *Salix.*

1. Predominant form of fertilization (type 1, allogamy). *Salix* is dioecious and therefore obligately outcrossed.

2. Differentiation of seed or fruit structure and dispersal (type 1, weak, conservative). The seeds of *Salix* are specialized for wind dispersal by their light weight and the presence of an arillate comae of fine trichomes (Argus 1965*a*).

3. Vegetative reproduction (type 1, often present). Most *Salix* propagate readily from cuttings, and the dispersal of branch fragments by water is common. Some species, such as the North American *S. hookeriana, S. sitchensis* and *S. lasiandra,* and the European *S. fragilis,* are characterized by highly brittle branchlets, an attribute which confers an adaptive advantage, facilitating dispersal, to species occupying riverine habitats. *Salix interior,* a very aggressive colonizer of sandy and silty river bars and islands, reproduces by shoot buds on roots, enabling it to spread rapidly and to form large colonies. This mode of vegetative reproduction is uncommon in *Salix* and is only known in section *Longifoliae.*

4. Chromosome number (type 1, often polyploid). About 40 per cent of *Salix* species are polypoid (Suda and Argus 1968).

5. Chromosome structural differentiation (type 1, weak). In general, the structural variation in *Salix* chromosomes is small. Wilkinson (1944), in describing the morphology of chromosomes in *Salix,* notes that the typical pattern consists of four long chromosomes with secondary constriction, four satellited chromosomes (two of these with median constrictions and two either constricted or unconstricted) and generally four to eight unconstricted chromosomes in a short length class.

6. Chromosome centromere position (type 1, relatively symmetrical). The majority of the somatic chromosomes in *Salix* have a median centromere (Wilkinson 1944).

7. Population isolation (type 1, primarily geographical and ecological). *Salix* species are differentiated ecologically and geographically and such isolation probably plays an important role in speciation. However, many *Salix* communities contain several species, and hybrids are not as abundant as they theoretically could be (Heribert-Nilsson 1918, 1930), suggesting that other isolating mechanisms, such as differences in flowering time (Argus 1965*a*), are also operative.

8. Population differentiation (type 1, mostly allopatric). The geographical differentiation within *Salix* suggests that this pattern is also displayed by *Salix.*

9. Hybridization (type 1, in contact areas, often extensive). Hybridization

between *Salix* species is theoretically possible (*see* Hybridization, p. 6) and occurs in some areas. However, of greater importance is the hybridization between incompletely differentiated geographical populations which were isolated by Pleistocene glaciations and have in post-Pleistocene time subsequently re-established their ranges. The great population variation in *Salix glauca* in the central Canadian Arctic and Subarctic is thought to be due to this process (Argus 1965*a*).

10. Population variability (type 1, populations relatively variable). In *Salix* population variation is relatively high (cf. *S. arctica, S. glauca, S. ovalifolia* and *S. scouleriana*), as would be expected in an outcrossing taxon occurring in habitats which exert relatively low selection pressures (Baker 1959). However, at the same time, polyploidy, acting as a buffer against genetic change (Stebbins 1950, and Mosquin 1966), and vegetative reproduction may lead to a reduction in variability.

The comparison of *Salix* with Ehrendorfer's type 1 colonizer leads to the conclusion that the general success of *Salix* species as colonizers is due to an interrelated complex of ecological, reproductive and evolutionary characteristics. A comparative study of *Salix* species in relation to these characteristics could lead to hypotheses explaining the narrow ecological amplitude of some species and the limited geographical distribution of others.

Eco-geographical Key

A knowledge of the distribution and ecology of unknown specimens of *Salix* can be very useful in arriving at their identification. The following key is an attempt to organize the *Salix* species of Alaska and the Yukon in relation to these attributes. The arrangement of the species is based largely on my field experience and on the herbarium specimens that I have studied. Further exploration and study are sure to result in some modification of this key, but its major outline is unlikely to be changed.

I. Forested Regions

A. Central Alaska and Southern Yukon
  1. Treed vegetation
    a. Upland forests
      bebbiana, scouleriana, planifolia ssp. *planifolia, arbusculoides*
    b. Floodplain forests
      monticola, bebbiana, arbusculoides, alaxensis
    c. *Picea mariana* muskegs
      maccalliana, glauca var. *acutifolia, fuscescens, pedicellaris, monticola, novae-angliae, myrtillifolia, bebbiana, scouleriana, planifolia* ssp. *planifolia,* ssp. *pulchra* var. *yukonensis, arbusculoides*
  2. Treeless vegetation
    a. Fens
      maccalliana, brachycarpa ssp. *brachycarpa, athabascensis, pedicellaris, myrtillifolia, planifolia* ssp. *planifolia,* ssp. *pulchra, candida*
    b. Floodplains
      lasiandra, maccalliana, interior, brachycarpa ssp. *brachycarpa,* ssp. *niphoclada, glauca* var. *acutifolia,* var. *villosa, rigida, novae-angliae, planifolia* ssp. *pulchra* var. *yukonensis, lanata* ssp. *richardsonii, alaxensis, drummondiana*

B. Southern Coastal Alaska
  1. Treed vegetation
    a. Forest openings
      barclayi, scouleriana, sitchensis
    b. Floodplains and glacial outwash plains
      lasiandra, barclayi, commutata, alaxensis, sitchensis
  2. Treeless vegetation
    a. Sand dunes
      hookeriana, alaxensis var. *alaxensis*
    b. Fens
      lasiandra, barclayi, commutata, hookeriana, scouleriana

---

II. Alpine and Subalpine Regions

A. Yukon-Tanana Hills, Alaska Range, Coast Ranges and Northern Rocky Mountains
  1. Alpine vegetation
    a. Tundra
      reticulata ssp. *reticulata,* ssp. *glabellicarpa, rotundifolia* ssp. *rotundifolia,* ssp. *dodgeana, phlebophylla, stolonifera, arctica, chamissonis, fuscescens, hastata, arbusculoides*

b. Snowbeds

reticulata, polaris

2. Shrubby subalpine vegetation

brachycarpa, glauca var. *acutifolia*, var. *villosa, hastata, barclayi, commutata, bebbiana, planifolia* ssp. *pulchra, lanata* ssp. *richardsonii, barrattiana, drummondiana*

3. Floodplain vegetation

setchelliana, brachycarpa, hastata, monticola, commutata, bebbiana, scouleriana, planifolia ssp. *pulchra, arbusculoides, lanata* ssp. *richardsonii, alaxensis*

B. Brooks Range and Northern Mackenzie Mountains

1. Alpine vegetation

a. Tundra

reticulata, rotundifolia, phlebophylla, arctica, chamissonis, arctophila, fuscescens, planifolia ssp. *pulchra, arbusculoides*

b. Snowbeds

reticulata, polaris

2. Subalpine vegetation

brachycarpa ssp. *niphoclada, glauca* var. *glauca, planifolia* ssp. *pulchra, lanata* ssp. *richardsonii, barrattiana*

3. Floodplain vegetation

brachycarpa ssp. *niphoclada, glauca* var. *glauca*, var. *acutifolia, hastata, pyrifolia, alaxensis*

III. Arctic Regions

1. Northern Alaska and Yukon, Western Alaska

a. Herbaceous tundra

reticulata, polaris, rotundifolia ssp. *rotundifolia*, ssp. *dodgeana, phlebophylla, arctica, sphenophylla, chamissonis, arctophila, fuscescens*

b. Shrubby tundra

glauca var. *glauca, planifolia* ssp. *pulchra, arbusculoides, lanata* ssp. *richardsonii, barrattiana*

c. Fell-fields and talus slopes

reticulata, phlebophylla, arctica

d. Coastal beaches and marshes

ovalifolia var. *ovalifolia*, var. *arctolitoralis*, var. *glacialis, arctica*

e. Floodplains and sand dunes

brachycarpa ssp. *niphoclada, glauca* var. *glauca, hastata, arbusculoides, alaxensis* var. *alaxensis, barrattiana*

2. Bering Sea Islands

reticulata, polaris, rotundifolia ssp. *rotundifolia*, ssp. *dodgeana, nummularia, phlebophylla, ovalifolia* var. *ovalifolia*, var. *cyclophylla, arctica, sphenophylla, chamissonis, fuscescens, planifolia* ssp. *pulchra, alaxensis* var. *alaxensis*

3. Aleutian Islands

reticulata, rotundifolia ssp. *rotundifolia, ovalifolia* var. *ovalifolia*, var. *cyclophylla, arctica, barclayi, commutata*

This study began by an examination of herbarium specimens and the literature in order to obtain a preliminary understanding of the units (usually corresponding to species or intraspecific taxa) occurring in Alaska and the Yukon. These units were then studied as natural populations in the field during 1966 and 1967 at which time 36 of the 41 species in the flora were encountered. In the field an effort was made to gain an appreciation of the following: 1) population variation, 2) developmental variation, 3) environmentally induced variation, 4) ecological preferences, and 5) the occurrence of hybridization or introgression. This information, along with chromosome numbers and geographical distribution, was then used to delimit the taxa. Finally, the appropriate nomenclature was determined through a study of original descriptions and type specimens.

Descriptions

A detailed description of each taxon based on specimens from Alaska and the Yukon was compiled. In some taxa (*Salix nummularia, S. sphenophylla, S. maccalliana, S. pyrifolia* and *S. rigida*) there were insufficient specimens from Alaska and the Yukon, and therefore extraterritorial specimens were used. Descriptive data were obtained from a number of specimens and generally the more variable the characteristic, the more specimens that were examined. For example, in *S. planifolia* ssp. *pulchra* the relatively invariable bract length and anther length were based on five to eight observations, but leaf length and width, petiole length and stipule length were based on 71 observations. Every effort was made to characterize the mean and the extremes of variation of each characteristic; for example, leaf length in *S. planifolia* ssp. *pulchra* is given as (2.2) 3.2-6 (7.5) cm, indicating that the general variation in leaf length is between 3.2 and 6 cm, but extremes of 2.2 and 7.5 cm also occur. Measurements were made using a millimetre scale or an ocular micrometer in a dissecting microscope at 22x.

Terminology

The terminology used for simple, symmetrical, plane shapes follows the system proposed by the Systematics Association Committee for Descriptive Biological Terminology (1962). Other terminology generally follows W. T. Stearn, *Botanical Latin,* 1966.

In the case of certain commonly used terms for indumentum types, the following standards were set up within *Salix.*

Sericeous: the type of indumentum on the lower side of the leaves of *S. arbusculoides.*

Villous: the type of leaf indumentum in *S. commutata.*

Densely white lanate: the type of indumentum on the underside of leaves of *S. alaxensis* var. *alaxensis.*

Sericeous-lanate: the type of indumentum on the lower surface of the leaves of *S. barrattiana.*

Villous-woolly: the type of indumentum on the young branchlets of *S. alaxensis* var. *alaxensis.*

Some morphological terminology conventionally used in *Salix* is evidently incorrect and several new terms have been used in this paper:

Stipe: the pedicel of authors. If the nectary represents a reduced perianth as was suggested by Fisher (1928), then this structure cannot be a pedicel, which is the stalk of a flower, but rather a stipe or gynophore.

Floriferous branchlet: the peduncle of authors. In 1965 I proposed using

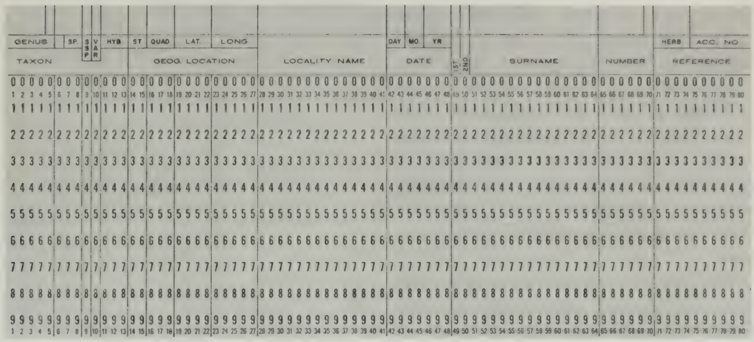


Fig. 1 Summary data card

Columns	Data	Authority
1-5	Genus code number	Dalla Torre and Harms 1900-1907
6-8	Species code number	Arbitrary
9	Subspecies code number	Arbitrary
10	Variety code number	Arbitrary
11-13	Hybrid code; code number of second parent	Arbitrary
14-15	Province/State code number	Arbitrary
16-18	Quadrangle code number; 1:250,000 map sheet	Orth 1967 (Alaska), Arbitrary (Canada)
19-22	Latitude	
23-27	Longitude	
28-41	Locality place name	
42-48	Date	
49-64	Collector's name; first collector only	
65-70	Collection number	
71-74	Herbarium acronym	Lanjouw and Stafleau 1964
75-80	Herbarium accession number	

the term reproductive branchlet for the leafy branchlet terminating in an ament. However, this term is not completely appropriate and I have changed it to floriferous branchlet, that is, a branchlet bearing flowers. The length of the floriferous branchlet is measured from the proximal end of the branchlet to the lowermost (often sterile) bract. A true peduncle does occur (Argus 1965*a*) but its limits are often doubtful and this term is not used here.

Bract: the scale of authors. Usually this term is applied to the foliar structures on the floriferous branchlet, but I see no reason not to refer to them as leaves, and I use the term bract for the foliar structure subtending each flower.

Specimen Citations

Herbarium label data were recorded on 3 x 5 inch index cards as the research proceeded. After these data were supplemented by geographical and taxonomic code numbers and, where necessary, by latitude and longitude, the data were key-punched on IBM-type summary data cards (Fig. 1). The cards were patterned after those used by Soper (1964) to machine map species distribution. Summary data cards were produced for the Argus & Chunys 1967 collections as a by-product of a computerized herbarium labelling system. The summary data cards were machine sorted in terms of taxa and geography, and a print-out of the information on these cards is included as Appendix B. Appendix A contains a list of code numbers, acronyms, and abbreviations used in Appendix B and in the text.

The use of computerized data storage and retrieval methods to prepare a list of specimen citations is an innovation which permits the complete documentation of research materials at a modest cost.

Nomenclature

No attempt was made to cite complete synonymy for each taxon, and names used in reference to the species in northwestern North America are emphasized. Wherever possible type material was studied and all the types cited have been examined. In cases where type specimens were not seen, the evaluation of names was based on the original descriptions and on common usage.

Distribution Maps

The specimens examined in this study (listed in Appendix B) were hand-plotted on outline maps. The map projection is Lambert azimuthal equal area. On the species maps dots represent specimens and circles represent literature reports or doubtful identifications. The distribution maps of Alaska and the Yukon are relatively comprehensive. However, all possible sources of collections from the western Northwest Territories and northwestern British Columbia were not consulted and the maps in these regions are therefore less complete.

Systematic Treatment

SALIX L. Sp. Pl. 1015. 1753.

Description of genus

Plants dioecious; dwarf or trailing arctic-alpine shrubs, erect shrubs, or occasionally trees; buds covered with a single scale; leaves alternate, simple and usually stipulate, the margins entire or variously toothed; flowers unisexual, borne in spike-like aments which are either sessile or are borne on floriferous branchlets (short shoots) on the branches of the previous year; each flower subtended by an entire bract (scale), and by one to several nectaries (glands); staminate flowers usually consist of two stamens, rarely one, or three to five, the filaments distinct or partly united; pistillate flowers consist of a single pistil which may be sessile or borne on a stipe (pedicel), the single style sometimes bifurcate, the two stigmas usually bifurcate or horseshoe-shaped; fruit a two-valved capsule with several seeds surrounded by a coma of fine hairs.

Key to the Species

1. Dwarf or prostrate, trailing shrubs under 2 dm tall.

  2. Pistillate and staminate flowers with two nectaries, one on either side of stipe; leaves prominently reticulate and pale beneath; aments borne on prominent, subterminal floriferous branchlets.

    3. Pistils densely sericeous; stipes sericeous; bract apex rounded or retuse .... *S. reticulata* ssp. *reticulata*, p. 45

    3. Pistils glabrous and glaucous or with patchy pubescence; stipes glabrous; bract apex retuse .... *S. reticulata* ssp. *glabellicarpa*, p. 47

  2. Pistillate flowers with one nectary between the stipe and the ament axis; aments borne on lateral, floriferous branchlets.

    4. Pistils pubescent, sometimes only on beak.

      5. Leaves distinctly and minutely serrulate .... *S. chamissonis*, p. 107

      5. Leaves entire or toothed only on the lower half.

        6. Leaves green or pale green beneath, nonglaucous.

          7. Branches clothed with persistent, skeletonized leaves; leaf margins usually ciliate; nectaries usually shorter than the stipes .... *S. phlebophylla*, p. 61

          7. Branches without persistent, skeletonized leaves; leaf margins rarely ciliate; nectaries 2-5 times as long as the stipes .... *S. polaris*, p. 49

        6. Leaves glaucous beneath.

          8. Leaves 0.9-1.5 cm long, margins prominently ciliate; aments globose .... *S. ovalifolia* var. *glacialis*, p. 68

          8. Leaves longer than 1.5 cm, margins not ciliate; aments cylindrical.

9. Styles 0.1-0.5 mm long.

10. Leaves obovate to elliptic 1.7-2.7 times as long as wide, glabrous above, margins distinctly toothed on lower half; pistils sparsely pubescent with ferruginous trichomes ...... *S. fuscescens,* p. 113

10. Leaves narrowly elliptic to narrowly obovate, 2-3.7 times as long as wide, pubescent on both sides, margins entire; pistils densely pubescent with white trichomes .... *S. brachycarpa* ssp. *niphoclada,* p. 91

9. Styles longer than 0.5 mm.

11. Pistils sparsely pubescent with crinkly, refractive trichomes, nectaries shorter than the stipes, branchlets slender and trailing, glabrous; leaves glabrous .... *S. arctophila,* p. 109

11. Pistils sparsely or densely pubescent with non-refractive trichomes; nectaries equal to or longer than the stipes; branchlets and leaves various.

12. Pistils densely pubescent; leaves dark green and usually glossy above, cuneate to rounded at base; branchlets trailing to erect. *S. arctica,* p. 81

12. Pistils glabrous or sparsely pubescent on beak; branchlets trailing and rooting.

13. Leaves dull above, base usually cuneate, sometimes acute .... *S. sphenophylla,* p. 85

13. Leaves glossy above, base acute to rounded or subcordate *S. stolonifera,* p. 72

4. Pistils glabrous.

14. Leaves green (non-glaucous) beneath.

15. Decumbent or trailing forest shrubs, leaves narrowly elliptic to narrowly obovate, 2-5 cm long, margins crenate to crenate-serrulate .... *S. myrtillifolia*, p. 145

15. Dwarf, sometimes trailing, arctic shrubs; leaves circular to obovate or narrowly elliptic, 0.5-1.4 cm long, margins entire or toothed only at base.

16. Leaves subcircular, prominently reticulate, margins glandular toothed on lower half, non-ciliate; branchlets more or less trailing; styles 0.2-0.4 mm long .... *S. nummularia*, p. 59

16. Leaves circular or sometimes narrowly elliptic, not prominently reticulate, margins entire and ciliate; branchlets erect, not trailing; styles 0.5-1 mm long.

17. Pistillate aments 4-12 (15)-flowered; leaves 5-10-14 mm long, 0.9-1.3 times as long as wide; petioles 1.4-2-3 mm long .... *S. rotundifolia* ssp. *rotundifolia*, p. 53

17. Pistillate aments 2-4 (9)-flowered; leaves 4-6 mm long, 1.7-2.7 times as long as wide; petioles 0.8-1.6 mm long .... *S. rotundifolia* ssp. *dodgeana*, p. 55

14. Leaves glaucous beneath.

18. Branchlets usually densely woolly; leaves lemon green, coriaceous, obovate to narrowly obovate and tapering to a short petiole; petioles 0-0.3 mm long; bracts tawny, the apex often retuse; pistils brick red .... *S. setchelliana*, p. 77

18. Branchlets glabrous to sparsely pubescent; leaves thin, elliptic to subcircular; petioles 2-20 mm long; bracts brown to blackish; pistils reddish, purplish or greenish.

19. Pistillate nectaries shorter than the stipes; leaf margins distinctly toothed on lower half; petioles 2-5.6 mm long .... *S. fuscescens*, p. 113

19. Pistillate nectaries longer than or equal to the stipes; leaf margins usually entire; petioles usually 4-20 mm long.

20. Leaves dull above, base usually cuneate .... *S. sphenophylla*, p. 85

20. Leaves glossy above, base acute to rounded or subcordate.

21. Branches short and erect, sometimes trailing, often glaucous; plants often rhizomatous; styles 0.8-1.6 mm long .... *S. stolonifera*, p. 72

21. Branches long and trailing, nonglaucous; styles 0.2-0.8 mm long.

22. Leaves subcircular .... *S. ovalifolia* var. *cyclophylla*, p. 67

22. Leaves obovate to narrowly elliptic.

23. Leaves obovate, elliptic or broadly elliptic; pistillate aments generally shorter; pistils 2.5-4 mm long .... *S. ovalifolia* var. *ovalifolia*, p. 65

23. Leaves narrowly elliptic, 2.5-4.6 cm long; pistillate aments 2.2-5 cm long; pistils 5.2-9.6 mm long .... *S. ovalifolia* var. *arctolitoralis*, p. 66

1. Erect shrubs, exceeding 2 dm tall, or trees.

24. Flowering precocious.

25. Pistils glabrous.

26. Stipules absent; branchlets brittle and with persistent, long villous hairs at the base ...... *S. hookeriana*, p. 131

26. Stipules present, often persistent; branchlets tenacious, without long, villous hairs at the base.

27. Stipules persistent for several years, linear to ovate, the apex attenuate; styles longer than 1.2 mm; nectaries 2-3 times as long as the stipes .... *S. lanata* ssp. *richardsonii*, p. 171

27. Stipules not persistent for more than one year, elliptic to broadly ovate, apex rounded; styles shorter than 1.2 mm; nectaries shorter.

28. Aments precocious, on floriferous branchlets 0-0.5 cm long; styles 0.8-1.2 mm long; branchlets sparsely pubescent; leaves elliptic or obovate ...... *S. monticola*, p. 124

28. Aments subprecocious, on floriferous branchlets 0.3-1.3 cm long; styles 0.5-0.75 mm long; branchlets glabrescent; leaves narrowly oblong-obovate .... *S. rigida*, p. 121

25. Pistils pubescent.

29. Leaves densely white lanate beneath, bright green above; stipes 0-0.4 mm long.

30. Branchlets densely white yellow, villous-woolly and non-glaucous .... *S. alaxensis* var. *alaxensis*, p. 181

30. Branchlets glabrescent and glaucous .... *S. alaxensis* var. *longistylis*, p. 182

29. Leaves sericeous or densely villous to sparsely pubescent or glabrescent beneath; stipes 0.2-2 mm long.

31. Branchlets with thick glaucescence .... *S. drummondiana*, p. 186

31. Branchlets non-glaucous (rarely thinly so in *S. planifolia*).

32. Buds and stipules oily; stipules broadly ovate, margins prominently glandular; leaves white or grey sericeous-lanate beneath .... *S. barrattiana*, p. 175

32. Buds and stipules not oily; stipules ovate to linear; leaves glabrous, glabrate or sericeous beneath.

33. Branchlets velutinous; styles 0.2-0.5 mm long, stipes 0.8-2 mm long .... *S. scouleriana*, p. 153

33. Branchlets pubescent to villous; styles 0.5-1.8 mm long; stipes 0.2-0.8 mm long.

34. Stipules narrowly elliptic, not persistent for more than one year, 0.8-2.8 mm long .... *S. planifolia* ssp. *planifolia*, p. 157

34. Stipules linear, often persistent for two to four years, 3.5-14, up to 32 mm long.

35. Branchlets glabrous or sparsely pubescent .... *S. planifolia* ssp. *pulchra* var. *pulchra*, p. 159

35. Branchlets densely white grey, villous .... *S. planifolia* ssp. *pulchra* var. *yukonensis*, p. 161

24. Flowering coetaneous or serotinous.

36. Pistils glabrous.

37. Introduced species cultivated in some southern centres.

38. Leaves broadly ovate to narrowly elliptic, green or pale beneath; branches not pendulous; staminate flowers with five stamens .... *S. pentandra*, p. 35

38. Leaves narrowly ovate, glaucous beneath; branchlets pendulous; staminate flowers with two stamens .... *S. babylonica*, p. 41

37. Indigenous species.

39. Leaves green or pale beneath, non-glaucous.

40. Leaves linear, 7-18 times as long as wide, margins distantly denticulate; aments often branched; bracts deciduous after flowering; stipes pubescent *S. interior*, p. 43

40. Leaves not linear, only 2-5 times as long as wide, margins serrulate or crenate; aments unbranched; bracts persistent; stipes glabrous.

41. Leaves coarsely villous on both sides, margins glandular serrulate or partly entire .... *S. commutata*, p. 135

41. Leaves glabrous or glabrescent, margins glandular, crenate to crenate-serrulate.

42. Shrubs decumbent, 0.1-0.9 m tall; stipules minute to 1-2 m long; styles 0.3-0.5 mm long .... *S. myrtillifolia*, p. 145

42. Shrubs erect, 0.6-4 m tall, stipules 1-5 mm long; styles 0.5-0.9 mm long .... *S. novae-angliae*, p. 140.

39. Leaves glaucous beneath.

43. Immature leaves membranaceous and translucent, glabrate and green on both sides becoming glaucous beneath; leaves and buds with persistent balsam-like fragrance .... *S. pyrifolia*, p. 147

43. Immature leaves thicker and opaque, glabrous to pubescent, lacking a balsam-like fragrance.

  44. Petioles glandular near base of leaf; stamens 5; leaf apex acuminate to caudate .... *S. lasiandra,* p. 35

  44. Petioles non-glandular; stamens 2; leaf apex acute to rounded.

    45. Styles 0.1-0.4 mm long.

      46. Stipes 2-3.2 mm long, glabrous; leaves coriaceous, glabrous styles; 0.1-0.2 mm long ...... *S. pedicellaris,* p. 115

      46. Stipes 0.4-1.2 mm long, pubescent; leaves thin, glabrescent with ferruginous trichomes persistent along midrib; styles 0.2-0.4 mm long .... *S. hastata,* p. 119

    45. Styles 0.5-2 mm long.

      47. Stipules absent; leaves pubescent beneath, at least on mid-rib; branchlets brittle, with long, persistent, villous hairs at base; styles red in life .... *S. hookeriana,* p. 131

      47. Stipules present; leaves glabrous beneath; branchlets tenacious, lacking persistent hairs at base; styles greenish.

        48. Leaves elliptic or obovate, the immature green and opaque; petioles green; branchlets densely to sparsely villous; styles 0.6-1.6 mm long .... *S. barclayi,* p. 129

        48. Leaves narrowly oblong to narrowly obovate, the immature reddish and translucent; petioles reddish; branchlets glabrescent; styles 0.5-0.75 mm long .... *S. rigida,* p. 121

36. Pistils pubescent.

49. Stipes 2.8-4.8 mm long, about 10 times as long as the nectaries .... *S. bebbiana*, p. 149

49. Stipes 0-2 mm long, 1-2 times as long as the nectaries.

50. Leaves sericeous beneath, margins glandular serrulate to distantly so.

51. Leaves narrowly ovate, 5-7 times as long as wide, sericeous beneath with short, white or ferruginous trichomes oriented toward the apex, margins prominently glandular serrulate, styles 0.3-0.5 mm long .... *S. arbusculoides*, p. 169

51. Leaves narrowly elliptic to obovate, 2.5-3 times as long as wide, appearing satiny beneath with matted sericeous trichomes, margins distantly and inconspicuously glandular serrulate to glandular crenate; styles 0.5-0.8 mm long. *S. sitchensis*, p. 191

50. Leaves densely pubescent to glabrescent beneath, not sericeous.

52. Leaves pale green (non-glaucous) and glabrescent beneath, margins prominently glandular dotted to glandular serrulate; immature leaves sericeous with a mixture of white and ferruginous trichomes; stipes 0.8-2 mm long .... *S. maccalliana*, p. 38

52. Leaves glaucous beneath, variously pubescent, margins entire; stipes 0.1-1.5 mm long.

53. Leaves densely dull white lanate-floccose beneath, floccose to glabrescent above, narrowly elliptic to narrowly ovate, 3.5-7 times as long as wide; styles red .... *S. candida*, p. 177

53. Leaves not pubescent as above, obovate to broadly or narrowly elliptic, 2-4 times as long as wide; styles yellow green.

54. Leaves with ferruginous trichomes sparsely distributed on both sides, especially on immature leaves .... *S. athabascensis*, p. 103

54. Leaves without ferruginous trichomes.

55. Petioles 3-15 mm long, yellowish; stipes 0.5-2 mm long .... *S. glauca*, p. 95

55. Petioles 1-3 mm long, often reddish; stipes 0-0.5 mm long.

56. Pistillate aments subglobose, densely flowered; styles 0.5-0.8 mm long .... *S. brachycarpa* ssp. *brachycarpa*, p. 89

56. Pistillate aments cylindrical, loosely flowered; styles 0.2-0.5 mm long .... *S. brachycarpa* ssp. *niphoclada*, p. 91

Section 1. Pentandrae (Borr). Schneid.

1. *SALIX PENTANDRA* L.

S. pentandra L. Sp. Pl. 1016. 1753.

Description of species

Introduced shrubs or small trees up to 7 m tall; branchlets brown to reddish brown, glabrous and glossy. Leaves broadly ovate to narrowly elliptic, the largest mature leaves (3.5) 7-8.5 (11) cm long (excluding apex), (1.5) 2.5-3 (4.3) cm wide and 2.3-2.9 times as long as broad (excluding apex); apex acuminate on later leaves, 7-12 mm long; base rounded; margins glandular serrulate; immature leaves reddish and glabrous, mature leaves coriaceous, the upper side dark green, the lower side green or pale, non-glaucous; petioles 4-10 mm long, glandular at the distal end; stipules minute glandular lobes or narrowly obovate to transversely ovate, 1.4-4 mm long, deciduous. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 2-6 cm long, floriferous branchlets 1-2 cm long; stamens 5; filaments distinct, pilose below middle; anthers 0.5-0.6 mm long. Pistillate aments 3.5-6 cm long; floriferous branchlets 1.5-4.5 cm long; pistils ca. 2.5 mm long; capsules 5-6 mm long, glabrous; styles 0.5-1 mm long; stigmas 0.2-0.3 mm long; stipes 0.5-1 mm long, glabrous; nectaries 2, cup-like with lobes abaxially and adaxially, sometimes laterally, 0.4-0.6 mm long, about 0.5 times as long as stipe; bracts narrowly elliptic, apex broadly acute to round, 2-3 mm long, pale yellow, glabrate adaxially, pubescent at base abaxially, deciduous after flowering.

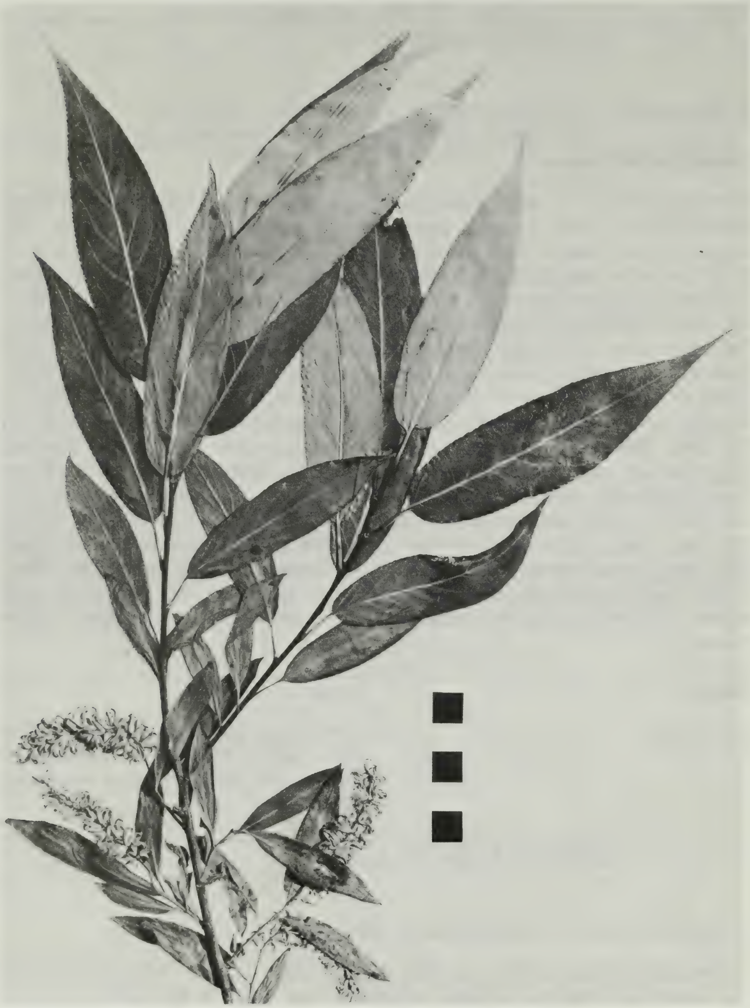
Habitat	**Range**
Cultivated.	Petersburg, southeastern Alaska; Eurasia, from British Isles eastward to Yenisei and Angara Rivers in central U.S.S.R.

2. *SALIX LASIANDRA* Benth.

S. lasiandra Benth. Pl. Hartweg. 335. 1857.

S. lancifolia Anderss. Kg. Sv. Vet. Akad. Handl. 6: 34. 1867. *S. lasiandra* var. *lancifolia* (Anderss.) Bebb, *in* Watson, Bot. Calif. 2: 84. 1879.

S. lasiandra var. *recomponens* Raup, Sargentia 6: 149. 1947. (Type: *Raup & Soper 9076,* A).



Salix lasiandra Benth. *Argus 6682*
Scale: On all the plates, one square represents one centimetre.

Description of species

Shrubs or small trees 1-7 (11) m tall; branches brown, glabrescent or sparsely lanate; branchlets tawny, brown or reddish, lanate to sparsely pubescent with spreading trichomes or glabrescent, brittle. Leaves narrowly to broadly ovate, the largest mature leaves 6.7-14.2 cm long, 1.3-3 cm wide and 3.7-5.5 (8.7) times as long as wide; apex acuminate to caudate, the apex or proximal leaves acute; base obtuse to round; margins glandular serrate-crenate to serrulate; immature leaves often reddish and densely lanate with white and ferruginous trichomes; the upper side of mature leaves glabrescent, green and glossy, the lower side sparsely pubescent, sometimes with ferruginous trichomes, becoming glabrescent, thinly glaucous, pale in about 20 per cent; petioles 1.3-3 cm long, glandular at distal end near base of blade, lanate; stipules semi-ovate, 1.4-5.6 mm long, glandular dotted on margins and at base. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 2-3.5 cm long, floriferous branchlets 0.9-2 cm long; stamens 4-5, filaments 3.5-4 mm long, pubescent at base; anthers 0.6-0.8 mm long; nectaries 2, adaxial and abaxial, small, up to 0.5 mm long, globular. Pistillate aments 2.5-5 cm long, rachis pubescent, floriferous branchlets 1.3-3.5 cm long; pistils 3-4.8 mm long, glabrous, capsules 5-6.5 mm long; styles 0.4-0.8 mm long; stigmas 0.2-0.3 mm long, 2 horseshoe-shaped lobes; stipes 0.9-1.2 mm long, glabrous; nectaries 1, adaxial, 0.2-0.4 mm long, broader than long, about 0.25-0.5 times as long as stipe; bracts narrowly oblong, apex acuminate, 1.7-3.2 mm long, tawny, pubescent on lower half, margins distantly denticulate or entire, often revolute, deciduous after flowering.

Habitat

Thickets on river banks and alluvial deposits; wet *Calamagrostis-Carex* meadows.

Range

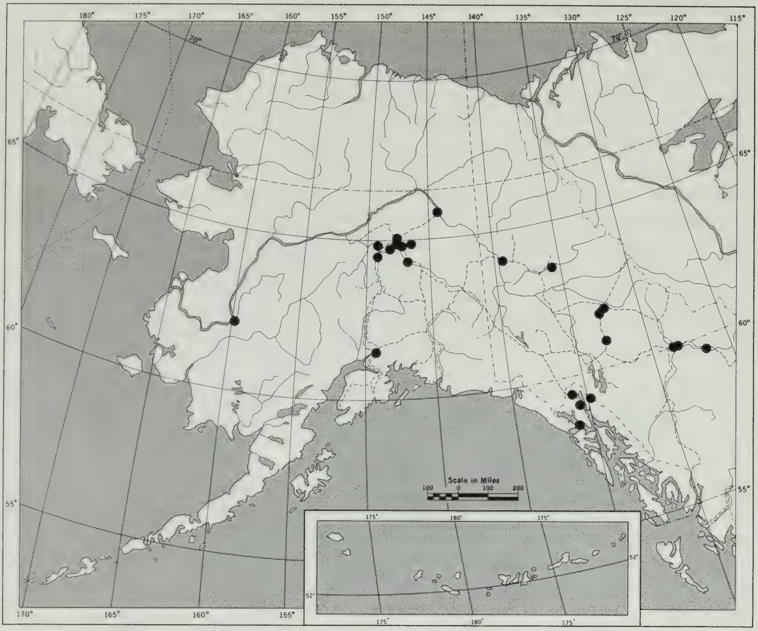
Boreal: Central Alaska; Yukon River and its tributaries; Matanuska River; southeastern Alaska from Glacier Bay to the head of Lynn Canal (Haines); Liard River, Yukon Territory; eastward in the boreal forest to Saskatchewan; southward in the codillera to California and New Mexico (Map 4).

Discussion

Salix lasiandra is characterized by 4-5 stamens and 2 nectaries per staminate flower, narrowly to broadly ovate leaves with long acuminate to caudate apices and by immature leaves pubescent with ferruginous and white trichomes.

This species is the western element of a North American complex including the eastern *S. lucida* Muhl. and the central *S. serissima* (Bailey) Fern. Boivin (1967) has combined *S. lasiandra* and *S. lucida* under the latter name, maintaining that they are not distinguishable geographically or morphologically. Further study may show that this view is tenable.

Several varieties of *S. lasiandra* have been based on variation in leaf glau-



Map 4 *Salix lasiandra*

cescence and in branchlet pubescence (Raup 1959). Following this view most of the Alaska and Yukon material must be referred to var. *lancifolia* which has leaves glaucous or pale beneath and branchlets densely pubescent; others with glabrous branchlets must be referred to var. *lasiandra. S. lasiandra* var. *recomponens,* with leaves green beneath (non-glaucous) and branchlets pubescent, described from the Mackenzie River basin, is unknown in our flora. Branchlet pubescence varies widely in this species and within the same population densely lanate to glabrescent branchlets may be recognized. Furthermore, this variation does not seem to have any geographical integrity and I am of the opinion that these taxa are minor variants not deserving taxonomic recognition.

Section 2. Maccallianae Argus*

3. *SALIX MACCALLIANA* Rowlee

S. maccalliana Rowlee, Bull. Torr. Bot. Club 34: 158. 1907. (Type: *McCalla 2252a,* US).

***Maccallianae sect. nov.**

Folia coriacea, concolora; pistilla sericea, 6-8 mm longa; styli 0.8-1.2 mm longi; bracteae fulvae; stamina 2; nectaria 4-6 loba, cupulata, circumdata stamina. Species typica *Salix maccalliana* Rowlee.

Description of species

Shrubs 0.9-2.5-3.5 m tall; branches dark reddish brown, glabrous and glossy; branchlets reddish brown or chestnut brown, glossy, puberulent with short, curved trichomes becoming glabrescent or sometimes glabrous from the start. Leaves coriaceous, narrowly elliptic to oblong, the largest mature leaves 5.2-7 cm long, 0.8-2 cm wide and 3.1-4.1 (5.7) times as long as wide; apex acute to sometimes more or less acuminate; base acute to round; margins entire and prominently glandular dotted or glandular serrulate to glandular crenate; immature leaves reddish, sericeous on both sides with white and ferruginous trichomes; the upper side of mature leaves glabrescent, the midrib sometimes remaining puberulent, glossy, the lower side glabrescent and pale, non-glaucous; petioles 5-10 mm long, yellow brown, puberulent adaxially; stipules small glandular lobes or sometimes narrowly elliptic with glandular margins, 0.2-0.5 (2) mm long. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 1.8-2.7 cm long, floriferous branchlets 0.3-1.3 cm long; stamens 2, filaments 4.8-6.5 mm long, pubescent near base, distinct; anthers 0.8-1.1 mm long; nectaries cup-like and surrounding the stamens, usually with 4-6 lobes. Pistillate aments 2-6 cm long, densely flowered becoming loose in fruit, floriferous branchlets 1-2.8 cm long; pistils 6-8 mm long, densely sericeous often with white and ferruginous trichomes, tawny or green, capsules about 8 mm long, tawny, sericeous-villous; styles 0.8-1.2 mm long; stigmas 0.4-0.5 mm long, 2-lobed; stipes 0.8-2 mm long, densely sericeous; nectaries 1, adaxial, 0.4-0.6 mm long, about 0.5 times as long as stipe; bracts narrowly oblong, apex rounded, 1.6-3.6 mm long, tawny or lemon green, sometimes brownish toward apex, villous to glabrescent abaxially.

Habitat

Muskegs; wet *Carex-Betula glandulosa* fens; river margins.

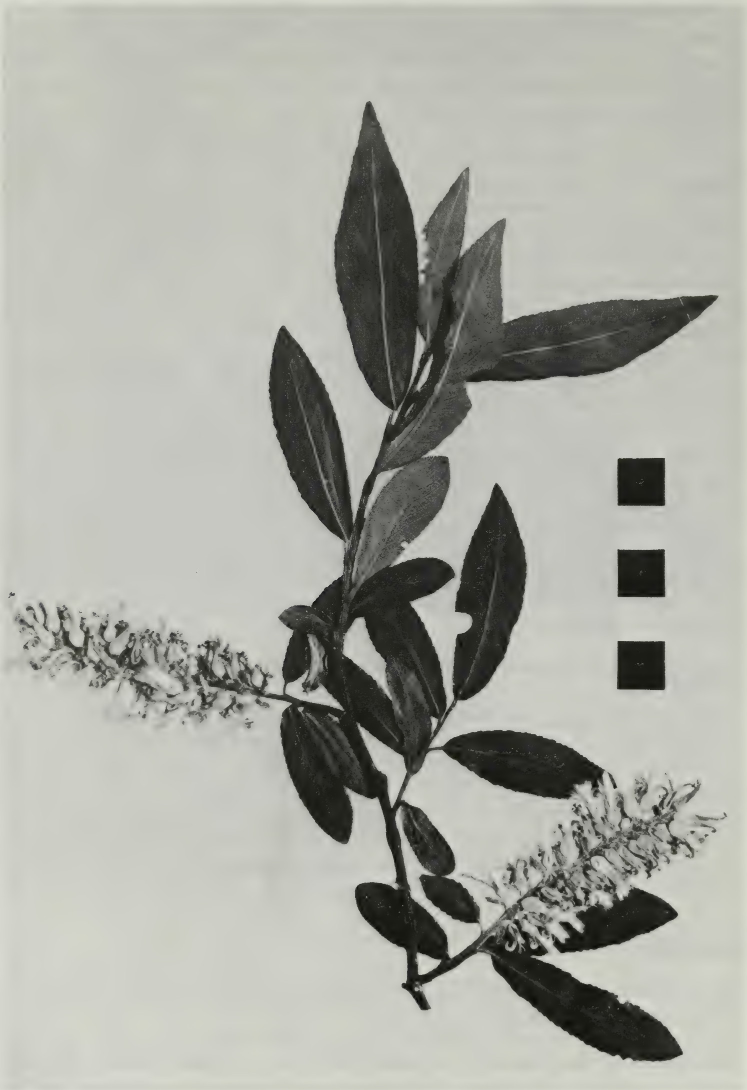
Range

Boreal, Aspen Parkland: Known in Yukon Territory only from Watson Lake, southeastern Yukon; along the Liard River in adjacent British Columbia; southward in the Rocky Mountains to Alberta; eastward to Saskatchewan, southern Manitoba, Ontario, and Quebec (Map 5).

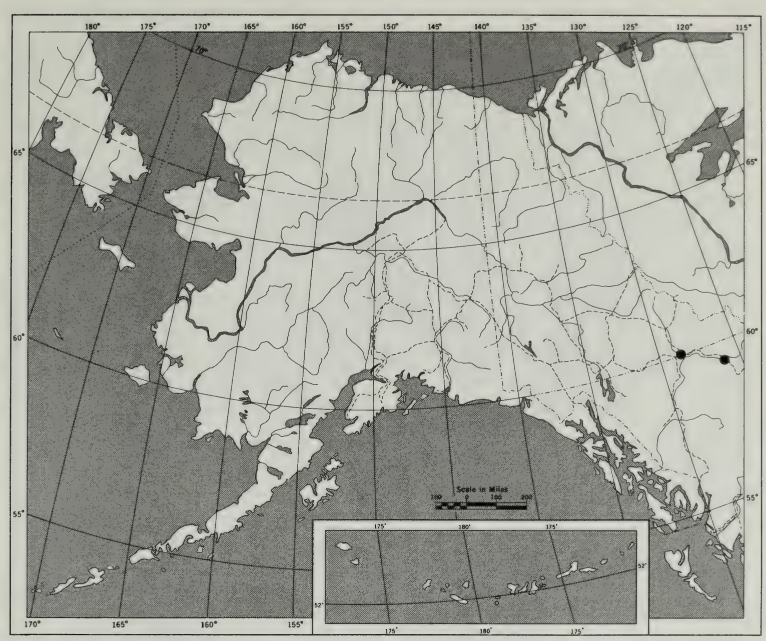
Discussion

Salix maccalliana is a very distinctive and relatively invariable species. Its leaves are coriaceous, glossy and green on both sides; the immature leaves are sericeous with white and ferruginous trichomes; the pistils are large (6-8 mm long) and densely sericeous with long styles (0.8-1.2 mm long) and are subtended by tawny or lemon green bracts; the stamens are surrounded by a cup-like nectary with 4-6 lobes.

The taxonomic relationships of this species have been the subject of much speculation. Because of the superficial resemblance of its aments to those of



Salix maccalliana Rowlee. *Argus 4319*



Map 5 *Salix maccalliana*

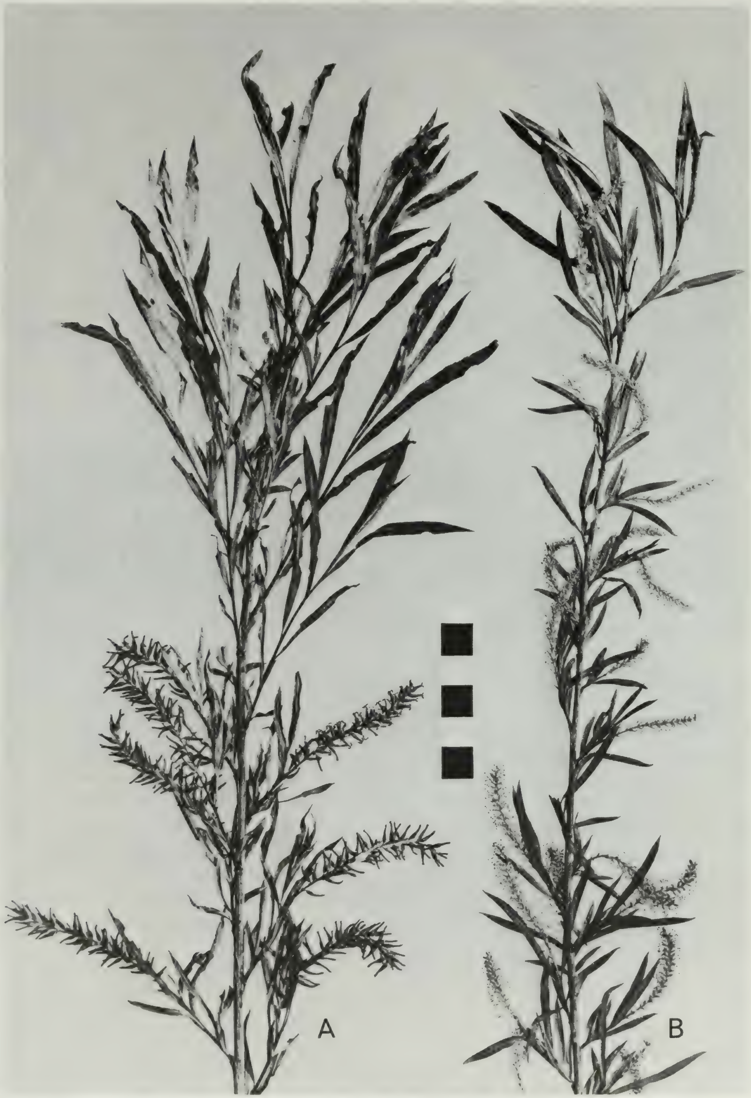
S. glauca it has often been aligned with that species (Rowlee 1907; Schneider 1920; Raup 1959). In his discussion Rowlee (1907) also suggested a relationship with *S. lucida* of section *Pentandrae* on the basis of its leaves and buds. This suggestion has not been followed by later authors, but it does seem to have some merit and is further supported by the cup-like staminate nectaries and the large, long-beaked capsules. There are certain important points of discrepancy, however, including the presence of 2 stamens instead of 4-5, and sericeous rather than glabrous pistils; but I would suggest looking to section *Pentandrae* rather than to *S. glauca* for at least one element of its ancestry. The very high chromosome number ($2n = 190\text{-}224$, Suda and Argus 1968) suggests that it is a very complex polyploid, probably with a diverse ancestry.

Section 3. Subalbae Koidz.

---

4. *SALIX BABYLONICA* L.

S. babylonica L. Sp. Pl. 1017. 1753.



Salix interior Rowlee. (A) Pistillate specimen, *Cody 8273*, (B) Staminate specimen, *Cody 8157*

Description of species

Introduced trees up to 12 m tall; branchlets slender, pendulous, yellowish to brown, glabrous. Leaves narrowly ovate, the largest mature leaves 8-12 cm long, 0.5-1.5 cm wide; apex long-acuminate; base acute; margins serrulate; immature leaves sericeous, the upper side of mature leaves glabrate, yellowish green, the lower side glaucous; petioles glandular at the distal end; stipules 2-7 mm long, narrowly ovate, often absent. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments slender, up to 4 cm long, floriferous branchlets 0.5-1.5 cm long; stamens 2, filaments distinct, pubescent at base. Pistillate aments 2-3.5 cm long, slender, floriferous branchlets present; capsules narrowly ovoid, 1-2 mm long, glabrous; styles about 0.5 mm long; stigmas short; stipes very short; nectaries 1, adaxial; bracts pale yellow, pubescent and caducous.

Habitat	Range
Cultivated.	Petersburg and Wrangell, southeastern Alaska; originally Asian but natural range obscured by widespread cultivation throughout Asia, Europe, and North America.

Section 4. Longifoliae Anderss.

5. *SALIX INTERIOR* Rowlee

S. interior Rowlee, Bull. Torr. Bot. Club 27: 253. 1900.

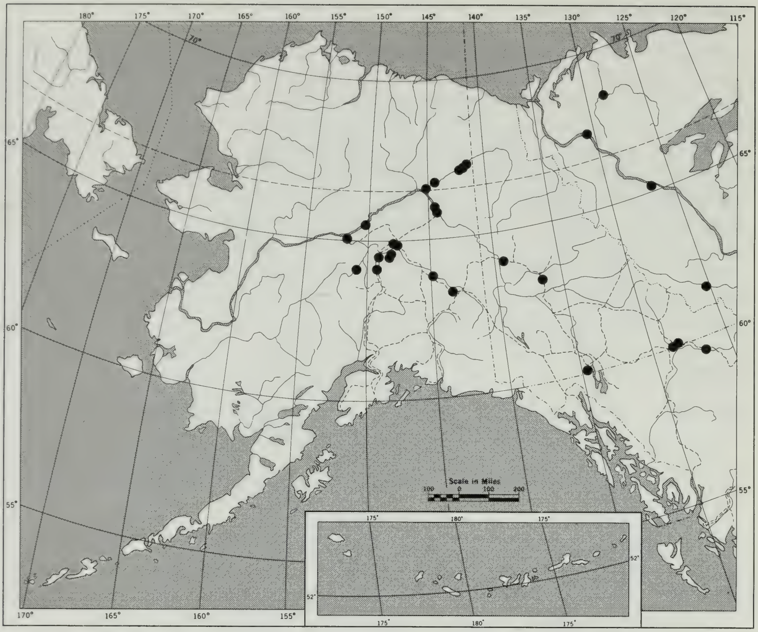
S. exigua ssp. *interior* Cronq. *in* Hitchcock, Cronquist, Ownbey and Thompson, Vas. Pl. Pacific NW. 2: 51. 1964.

S. longifolia Muhl. *in* Muhl. and Willd. Neue Schr. Ges. Nat. Fr. Berlin 4: 238. 1803, non Lam. 1778.

S. longifolia var. *pedicellata* Anderss. Kg. Sv. Vet. Akad. Handl. 6: 55. 1867.
S. exigua ssp. *interior* var. *pedicellata* Cronq. *in* Hitchcock, Cronquist, Ownbey and Thompson, Vas. Pl. Pacific NW. 2: 51. 1967.

Description of species

Shrubs 0.5-4 m tall, colonial, with shoots arising from roots; branches greyish; branchlets reddish brown, sparsely sericeous becoming glabrescent. Leaves narrowly oblong to linear, the largest mature leaves 4-12.8 cm long, 0.3-1 cm wide and 7-18.3 times as long as wide; apex acute; base narrowly cuneate; margins distantly glandular denticulate to subentire or entire; the upper side of mature leaves glabrous and green, the lower side sparsely sericeous to glabrescent and pale green, non-glaucous; petioles 0.8-5 mm long; stipules minute glandular lobes, rarely narrowly elliptic and up to 1.5 mm



Map 6 *Salix interior*

long. Aments coetaneous, on leafy, floriterous branchlets. Staminate aments 2-5 cm long, often branched and bearing lateral secondary aments, floriferous branchlets 0.5-5 cm long; stamens 2, filaments 2.4-2.8 mm long, lower half pubescent, distinct; anthers 0.5-0.8 mm long, curved or coiled after opening; nectaries 2, abaxial and adaxial. Pistillate aments 2.5-6 cm long, unbranched, floriferous branchlets 1.3-5.5 cm long; pistils long-beaked, 2-4.5 mm long, glabrous, capsules 5-8 mm long; styles 0-0.1 mm long; stigmas 0.2-0.3 mm long, 4 broad lobes; stipes 0.6-0.8 mm long, pubescent or glabrous; nectaries 2, abaxial and adaxial, 0.5-0.8 mm long, 2-3 times as long as stipe; bracts oblong, apex acute to acuminate, 2.8-3.2 mm long, tawny to yellow green, glabrous abaxially, tomentose adaxially, inflated, deciduous after flowering.

Habitat

River banks and alluvial deposits within the forested region.

Range

Boreal: Yukon River and its tributaries, extending as far west as Tanana; south to the Liard River, Yukon Territory; in the cordillera to California; eastward across Canada to northeastern United States (Map 6).

Discussion

Salix interior is a sand bar species spreading colonially, by shoots borne on roots, over newly formed alluvial deposits. It is characterized by linear, usually glabrous and distantly glandular denticulate leaves, aments which are often branched (Argus 1964) and bracts deciduous after flowering.

This species is part of the highly variable and taxonomically complex section *Longifoliae* which includes *S. fluviatilis, S. exigua, S. melanopsis,* et al. Revisions of this group have been proposed by Cronquist (1964) and by Boivin (1967). The section was once thought to be endemic to America (Schneider 1919*b*) but the southern Asian species *S. blakii* Gorz, and possibly others, clearly belongs here.

Section 5. Chamaetia Dumort.

6a. *SALIX RETICULATA* L. ssp. *RETICULATA*

S. reticulata L. Sp. Pl. 1018. 1753.

S. reticulata α (var.) *glabra* Trautv. *in* Ledeb. Fl. Alt. 291. 1833. *Chamitea reticulata* Kerner, Verh. Zool. Bot. Ges. Wien. 10: 277. 1860.

S. reticulata (var.) *subrotunda* Ser. Essai Mon. Saules Suisse 29. 1815.

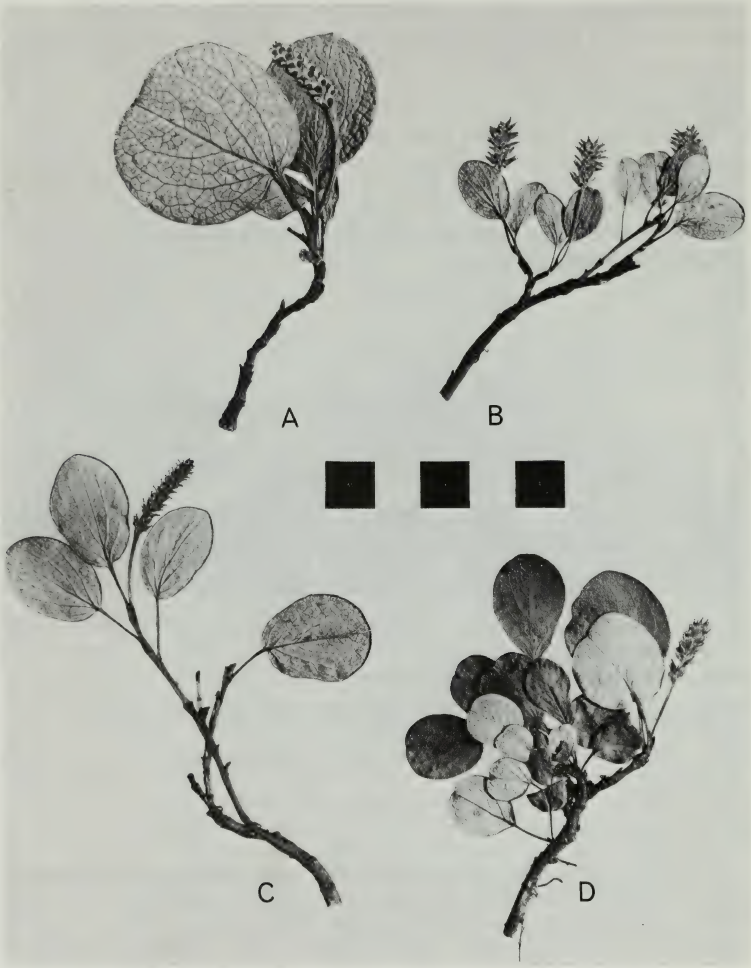
S. orbicularis Anderss. *in* DC. Prodr. 16 (2): 300. 1868. *S. reticulata* (ssp.?) *S. orbicularis* Flod. Sv. Vet. Akad. Ark. Bot. 20A: 5. 1926. *S. reticulata* ssp. *orbicularis* Flod. *in* Hult. Fl. Aleut. 162. 1937.

S. reticulata var. *gigantifolia* Ball, Proc. Nat. Acad. Sci. 21: 185. 1935.

S. reticulata f. *villosa* Kimura, *in* Tatewaki and Kobayashi, J. Fac. Agr., Hokkaido Imp. Univ. 36: 31. 1934.

Description of species

Dwarf shrubs, prostrate and rooting along stems; branches light brown with short internodes; branchlets green to greenish brown, glabrous, rarely glaucous; buds glabrous or pubescent at tip, sometimes glaucous, bud scale persistent at base of shoot. Leaves elliptic-circular to oblong, the largest mature leaves 1.2-5-6.6 cm long, 0.8-5 cm wide and 1-1.5 times as long as wide; apex round, obtuse or rarely retuse; base obtuse, rounded or cordate; margins subentire to indistinctly glandular crenate, revolute; the upper side of mature leaves dark green and glossy, glabrous or rarely villous with long straight trichomes, the veins impressed, the lower side pale green and non-glaucous or rarely glaucescent, sparsely pubescent with long, silky, caducous trichomes, venation prominently reticulate, sometimes reddish; petioles (3) 10-25 (30-46) mm long, reddish or yellowish, glabrous; stipules minute glandular lobes 0.2-0.4 mm long. Aments coetaneous on prominent, leafy,



Salix reticulata L. (A, B, C) Subspecies *reticulata*, population sample, *Argus 5621*
(D) Subspecies *glabellicarpa* Argus, *Argus 6645*

floriferous branchlets. Staminate aments 1.1-5.2 cm long, floriferous branchlets 1.1-3.2 cm long; stamens 2, filaments about 2.8 mm long, pubescent on lower half; anthers 0.3-0.4 mm long; nectaries 2-3, abaxial and adaxial, sometimes more or less surrounding stamens. Pistillate aments 1-6 cm long, floriferous branchlets 1.2-4.5 cm long, as long as vegetative branchlets, glabrous to coarsely pubescent distally; pistils 2.5-3 mm long, densely sericeous with white or mixture of white, red violet and ferruginous trichomes, capsules about 4.5-5 mm long, sparsely sericeous; styles 0.2-0.3 mm long; stigmas 0.2-0.4 mm long, 4-lobed; stipes 0-0.4-0.8 mm long, pubescent; nectaries 2, adaxial, 0.5-0.8 mm long, equal to or 2 times as long as stipe; bracts oblong to obovate, apex retuse or rounded, 0.8-1.8 mm long, reddish, greenish, tawny or drying brownish, sometimes white puncticulate, glabrous or glabrescent abaxially, densely pubescent adaxially.

Habitat

Arctic: tundra vegetation including polygonal tundra, dry tussock tundra, partly stabilized sand dunes, and *Carex-Eriophorum* meadows. Alpine: *Dryas* tundra; snow accumulation areas; stabilized talus slopes. In forested regions within mountains, it may occur in moss both in *Picea glauca* woods and in *P. mariana* muskegs.

Range

Arctic, alpine: Throughout Alaska and Yukon Territory; southward in the Rocky Mountains to British Columbia; transcontinental across Arctic and Subarctic Canada to Newfoundland and Greenland; Eurasia (Map 7).

6b. *SALIX RETICULATA* ssp. *GLABELLICARPA* Argus

S. reticulata ssp. *glabellicarpa* Argus, Can. J. Bot. 43: 1021. 1965. (Type: *Calder & Taylor 36347*, DAO).

Description of subspecies

Differs from ssp. *reticulata* in pistils glabrous or sparsely pubescent distally, glaucous; stipes glabrous; styles 0.2-0.4 mm long.

Habitat

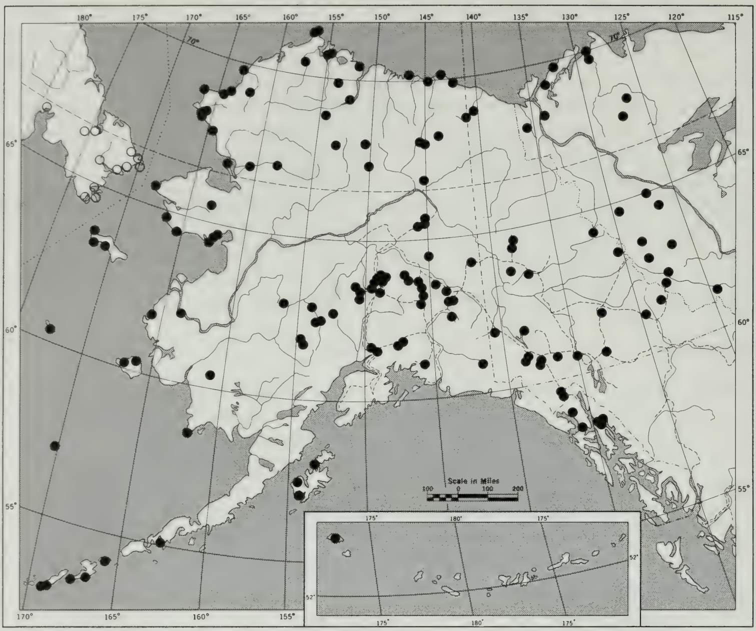
Alpine tundra.

Range

Alpine: Mount Gastineau near Juneau; Queen Charlotte Islands, British Columbia (Map 8).

Discussion

Salix reticulata is a dwarf, trailing willow characterized by prominently reticulate, elliptic-circular to oblong leaves and aments which are borne on long,

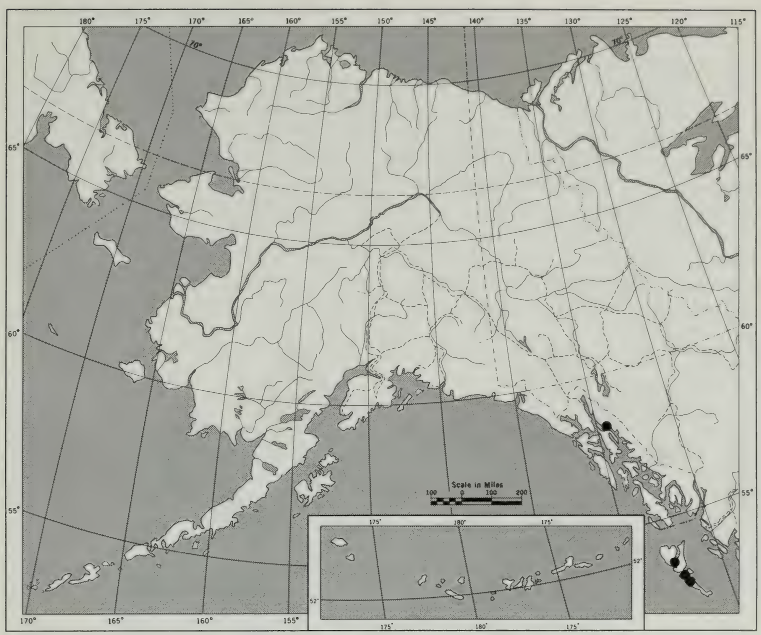


Map 7 *Salix reticulata* ssp. *reticulata.* Circles based on Skvortsov, 1966, as *S. reticulata*

leafy, floriferous branchlets. These branchlets are as long and bear as many leaves as do the vegetative branchlets.

There are two variations within *S. reticulata* that deserve discussion. The first is represented by *S. reticulata* ssp. *glabellicarpa,* a variant with glabrous and glaucous pistils which was described from the mountains of the Queen Charlotte Islands. Because of its localized distribution, the absence of glabrous pistils elsewhere within the species, and the possibility that it may have survived the Pleistocene glaciation on a refugium on the Islands, it was assigned subspecific rank (Argus 1965*b*). In 1967 it was found to occur also in the alpine tundra on the slopes of Mount Gastineau near Juneau. In this region it is sympatric with ssp. *reticulata,* which is absent from the Queen Charlotte Islands, and some signs of intergradation were observed. Some specimens (*Argus 6633* and *6644,* SASK) were very sparsely pubescent, whereas others were either glabrous (*Argus 6620a,* SASK) or had a few trichomes at the apex (*Argus 6632,* SASK). This subspecies is to be expected elsewhere in southeastern Alaska and coastal British Columbia where the ranges of the two subspecies evidently overlap.

The second variant is represented by *S. reticulata* f. *villosa* which has villous trichomes on the underside of mature leaves. This type of pubescence resembles that which occurs in *S. vestita* of the Rocky Mountains and eastern North America, and would probably be interpreted as an indication of hybrid-



Map 8 *Salix reticulata* ssp. *glabellicarpa*

ization if the species were sympatric. I have seen specimens with this type of pubescence throughout the range of ssp. *reticulata* in Alaska and the Yukon, including Whitehorse, the Bering Sea Coast (Scammon Bay and Cape Thompson), the Alaska Range (Rainbow Mountain, Donnelly Dome and Eureka Roadhouse), and southeastern Alaska (Coronation Island), and specimens with villous leaves have been reported from Attu Island and Unalaska (Kimura 1934). Whether or not this unusual pubescence is a remnant of an ancient trans-Bering Straits distribution of *S. vestita* as suggested by Hultén (1967) is difficult to say, but it does deserve further study.

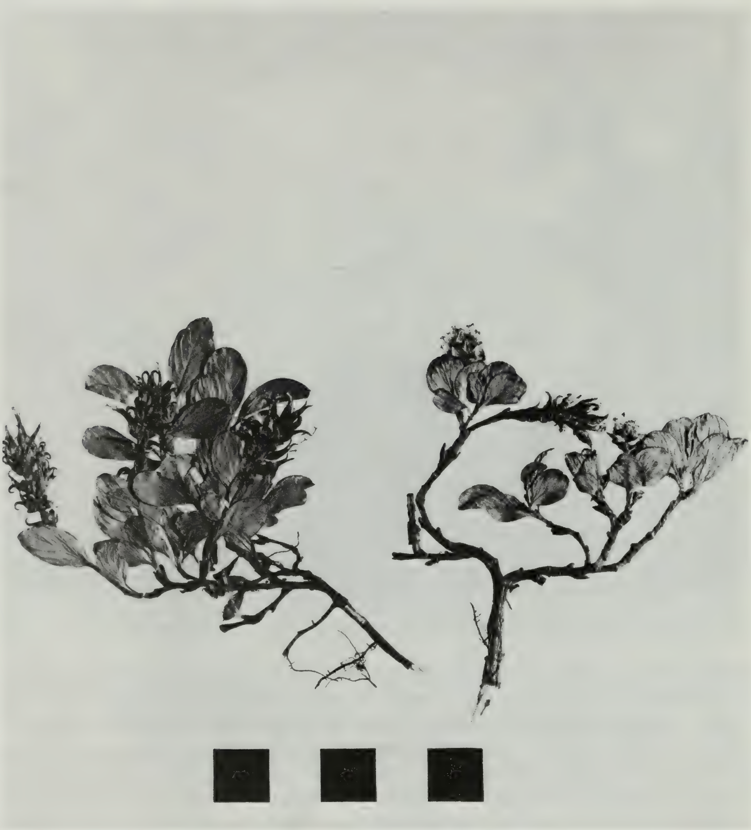
Section 6. Retusae Kern.

7. *SALIX POLARIS* Wahl.

S. polaris Wahl. Fl. Lapp. 261. 1812.

S. pseudopolaris Flod. Sv. Vet. Akad. Ark. Bot. 20A (6): 8. 1926. *S. polaris* ssp. *pseudopolaris* Hult. Fl. Alaska and Yukon 3: 510. 1943.

S. polaris var. *selwynensis* Raup. Contr. Arnold Arb. 6: 144. 1934.



Salix polaris Wahl. *Murray 1042* (left) and *Viereck 8361* (right)

Description of species

Dwarf shrubs often partly subterraneous, stems rooting, branches reddish brown, glaucous; branchlets short and not conspicuously trailing, greenish brown, glabrous; buds glabrous and glaucous, the scale often persistent at base of shoot. Leaves obovate to narrowly elliptic, the largest mature leaves 1-2-2.8 cm long, 0.8-1-1.8 cm wide and 1.1-1.7-2.5 time as long as wide; apex round, retuse or obtuse, usually conduplicate when pressed, base cuneate or round, inequilateral; margins entire, flat, often reddish, rarely ciliate; the upper side of mature leaves glabrous or rarely ciliate toward margin, glossy, the lower side glabrous or rarely pubescent with long, sparse, caducous trichomes, green and glossy, secondary veins prominently raised; petioles 2-5-10 mm long, yellow to reddish; stipules absent or minute glandular lobes 0.1-0.4 mm long. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 1.5-1.8 cm long, floriferous branchlets 0.5-1.5 cm long; stamens 2, filaments 4-4.4 mm long, glabrous, distinct; anthers about 0.6 mm long. Pistillate aments 1.5-3.5 mm long, floriferous branchlets 1.2-2 cm long; pistils about 2.5 mm long, reddish and glossy, entirely pubescent or sparsely pubescent on distal half, capsules 4.8-6.4 mm long, pale reddish brown, pubescent; styles 0.7-1.6 mm long, entire or bifurcate; stigmas 0.2-0.6 mm long, 4 linear lobes; stipes 0.2-0.7 mm long, glabrous or pubescent; nectaries 1, adaxial, 0.9-1 mm long, often 2-5 times as long as stipe; bracts oblong to broadly obovate, apex rounded, uniformly brown or dark brown, sometimes bicolour, sparsely pubescent to glabrescent abaxially, sparsely pubescent adaxially.

Habitat

Tundra vegetation; late snowbed and snow flush areas; alpine scree slopes.

Range

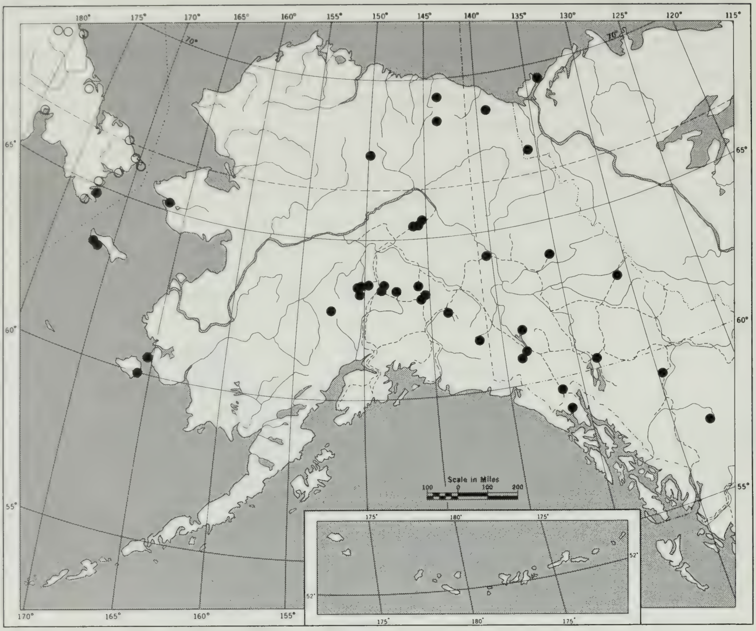
Arctic, alpine: Bering Sea region; eastern Brooks Range; central Alaska; Alaska Range; southward to the St. Elias Mountains, Yukon Territory; eastward to northern British Columbia; Eurasia (Map 9).

Discussion

Salix polaris is a dwarf species characterized by pubescent pistils, long styles (0.7-1.6 mm long) and leaves non-glaucous beneath.

This species is commonly misunderstood in the North American literature, and many specimens in herbaria are misidentified. Wiggins and Thomas in *A flora of the Alaskan Arctic Slope* (1962) completely misunderstood the species (as *S. pseudopolaris*), and many of the specimens they cited are *S. ovalifolia* var. *glacialis* or *S. ovalifolia* var. *ovalifolia.* I have not seen any authentic *S. polaris* from the Arctic slope of Alaska (reported by Hultén 1968, Map 4), although it does occur in the eastern Brooks Range.

In my opinion the characteristics that have been used to distinguish *S. pseudopolaris* from *S. polaris*, namely, light-coloured bracts with wavy hairs (Hultén 1943) and a greater number of flowers in the aments (Skvortsov



Map 9 *Salix polaris.* Circles based on Skvortsov, 1966

1966), and the characteristics that have been used to distinguish *S. polaris* var. *selwynensis,* namely, longer aments and leaves ovate-elliptic or obovate (Raup 1934), are inconsequential and scarcely extend the normal range of variation of *S. polaris.* The taxonomic confusion results from a lack of specimens, and from typological thinking that fails to recognize and understand population variation. In his discussion of *S. pseudopolaris* Floderus (1926) referred to the hybridogenous nature of many of the specimens he studied and suggested that some characteristics were derived from crossing with *S. arctica, S. glauca* or *S. chamissonis.* In my opinion Floderus' presumption of hybridity is, in most cases, conjectural and originates from a lack of appreciation of character variation. However, as I studied *S. polaris,* I was repeatedly impressed with the apparent morphological links with S. *rotundifolia, S. arctica* and *S. ovalifolia* and with the heterogenous composition of the species. The material available to me is inadequate to fully understand this species and extensive field and laboratory studies are indicated.

Salix polaris is apparently related to *S. rotundifolia, S. phlebophylla* and *S. stolonifera* and is similar morphologically to some variants of *S. arctica.* The comparison table (Table 2) will aid in distinguishing them.

Table 2 Comparison table: *Salix polaris, S. rotundifolia, S. stolonifera, S. phlebophylla* and *S. arctica*

Characteristics	*polaris*	*rotundifolia*	*stolonifera*	*phlebophylla*	*arctica*
leaves	non-glaucous beneath	non-glaucous beneath	glaucous beneath	non-glaucous beneath	glaucous beneath
	rarely ciliate margins	sometimes ciliate margins	non-ciliate margins	±ciliate margins	non-ciliate margins but with long trichomes beneath
	non-persistent	often persistent for several years	non-persistent	persistent and skeletonized	non-persistent
pistillate aments	more than 15-flowered	4-15-flowered	more than 25-flowered	more than 25-flowered	more than 25-flowered
pistils	pubescent	usually glabrous	usually glabrous	usually pubescent	pubescent
nectary length	2-5 times stipe	1-3 times stipe	1.5-3 times stipe	less than or equal to stipe	1.5-4 times stipe

8a. *SALIX ROTUNDIFOLIA* Trautv. ssp. *ROTUNDIFOLIA*

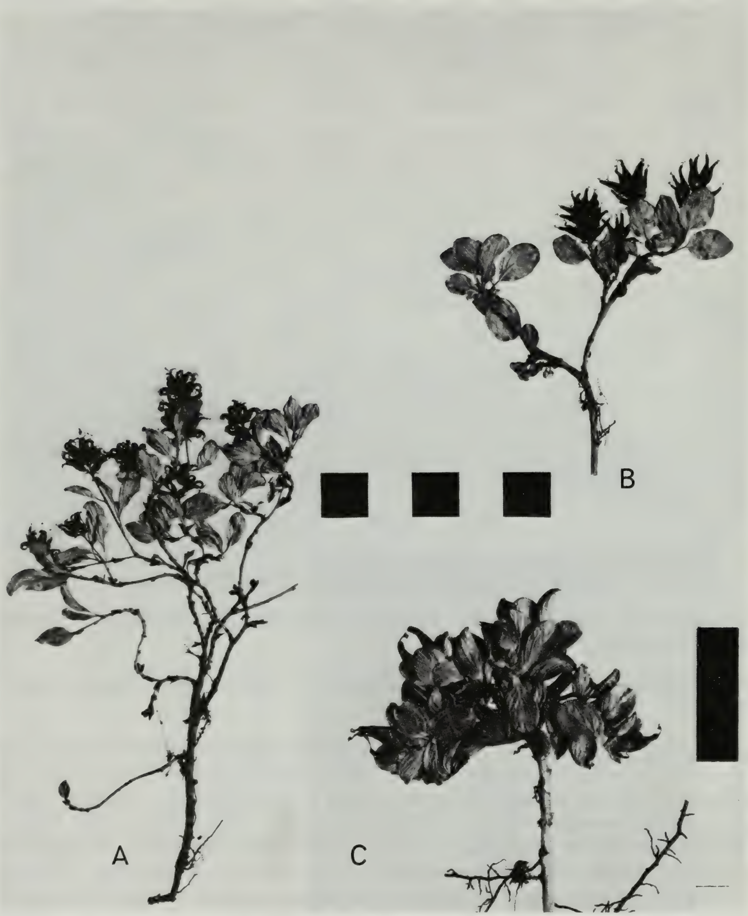
S. rotundifolia Trautv. Nouv. Mem. Soc. Nat. Mosc. 2: 304. 1832.

S. polaris var. *leiocarpa* Cham. Linnaea 6: 542. 1831. *S. leiocarpa* Cov. Proc. Wash. Acad. Sci. 3: 338. 1901.

S. behringica v. Seemen, Engler Bot. Jahrb. 21. 52: 6. 1895. (Type: *Krause 85,* US).

Description of species

Dwarf shrubs with slender branches arising from a taprooted caudex, forming a highly branched, largely subterranean shrub about 2-3 cm tall; branches yellow brown, glabrous, glossy and with short internodes; branchlets yellow brown, yellowish red or reddish green, sometimes glaucous, bearing 2-3 leaves; buds tawny to greenish or reddish, sometimes glaucous, the scale persistent at base of shoot. Leaves circular, elliptic or sometimes narrowly elliptic, the largest mature leaves 5-10-14 mm long, 4.2-6-9 (11.2) mm wide and (0.9) 1.2-1.3 (2.2) times as long as wide; apex rounded to more or less retuse; base rounded, narrowly cuneate in narrower leaves; margins entire, usually reddish, sometimes ciliate, revolute; the upper side of mature leaves glossy and glabrous, primary veins usually prominently raised, sometimes impressed, the lower side glossy, glabrous and green, non-glaucous, the 3-4 secondary veins prominently raised and veinlets evident, marcescent leaves often persistent for several years but not becoming skeletonized; petioles 1.4-2-3 mm long, tawny and glabrous; stipules usually minute glandular lobes, 0.1-0.2 (0.4) mm long, yellowish or reddish. Aments coetaneous or



Salix rotundifolia Trautv. (A, B) Subspecies *rotundifolia, Argus 5695*, (C) Subspecies *dodgeana* (Rydb.) Argus, *Murray 788* serotinous, terminal on previous year's shoot, and borne on floriferous branchlet bearing 2 leaves. Staminate aments 0.3-1 cm long, 7-15-flowered, floriferous branchlets 3-7 mm long; stamens 2, filaments about 1.8-4 mm long, glabrous; anthers 0.4-0.6 mm long; nectaries long and narrow. Pistillate aments 0.7-2 cm long, rachis pubescent, 4-12 (15)-flowered, floriferous branchlets 0.7-2.5 cm long, as long or longer than aments; pistils 1.5-2.5 mm long, glabrous or rarely sparsely pubescent at tip, glossy and reddish brown, capsules 4-6-7.2 mm long, beak sometimes flattened; styles 0.5-1 mm long, entire or sometimes slightly bifid; stigmas 4 linear lobes, 0.4-0.5 mm long; stipes 0.4-0.8 mm long, glabrous or sometimes pubescent, nectaries 1, adaxial, 0.9-1.6 mm long, reddish, equal to or up to 3 times as long as stipe; bracts broadly obovate, apex rounded or retuse, 1.6-2.8 mm long, uniformly brown or bicolour and pale reddish brown at base, usually glabrous or sparsely pubescent abaxially, sparsely pubescent adaxially with long straggly trichomes appearing as cilia around margin.

Habitat	**Range**
Tundra.	Arctic, alpine: St. Lawrence Island; Bering Sea islands; Seward Peninsula; northern Alaska to Barter Island; Aleutian Islands; Alaska Peninsula; Kodiak Island; Talkeetna Range; Alaska Range; Eagle Summit, central Alaska; Ruby Range, southwestern Yukon; to the Mackenzie Mountains, Northwest Territories (Map 10).

8b. *SALIX ROTUNDIFOLIA* ssp. *DODGEANA* (Rydb.) Argus

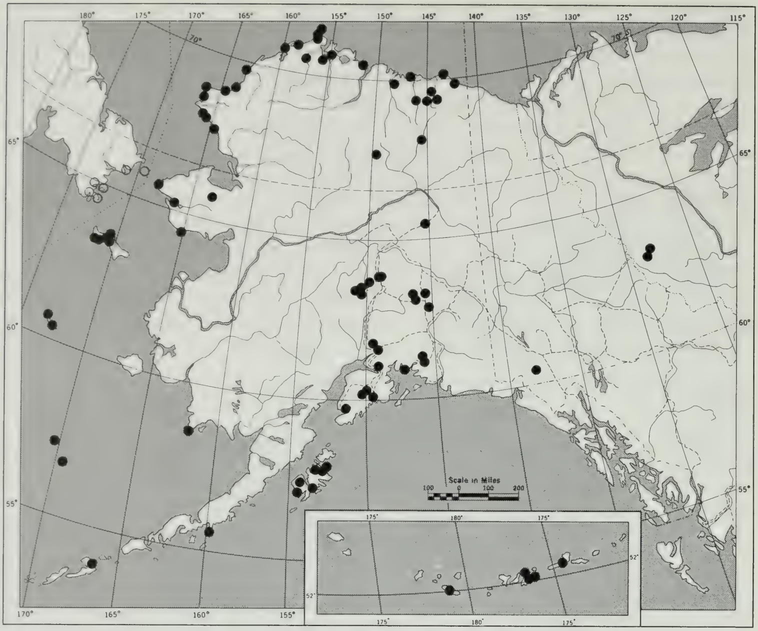
S. rotundifolia ssp. *dodgeana* (Rydb.) Argus, Can. J. Bot. 47: 795. 1969.

S. dodgeana Rydb. Bull. N.Y. Bot. Gard. 1: 277. 1899. (Type: *Rydberg & Bessey s.n.* NY).

Description of subspecies

Differs from ssp. *rotundifolia* in leaves smaller and narrower, 4-6 mm long, 1.7-3.6 mm wide and 1.7-2.7 times as long as wide, venation on upper side of mature leaves less prominent; petioles shorter, 0.8-1.6 mm long. Pistillate aments with fewer flowers, 2-4 (9)-flowered (Table 3).

Habitat	**Range**
Tundra.	Alpine, Arctic: Disjunct distribution in North America; northwestern Wyoming and adjacent Montana; Kluane Lake region, Yukon Territory; Mackenzie Mountains, Northwest Terri-



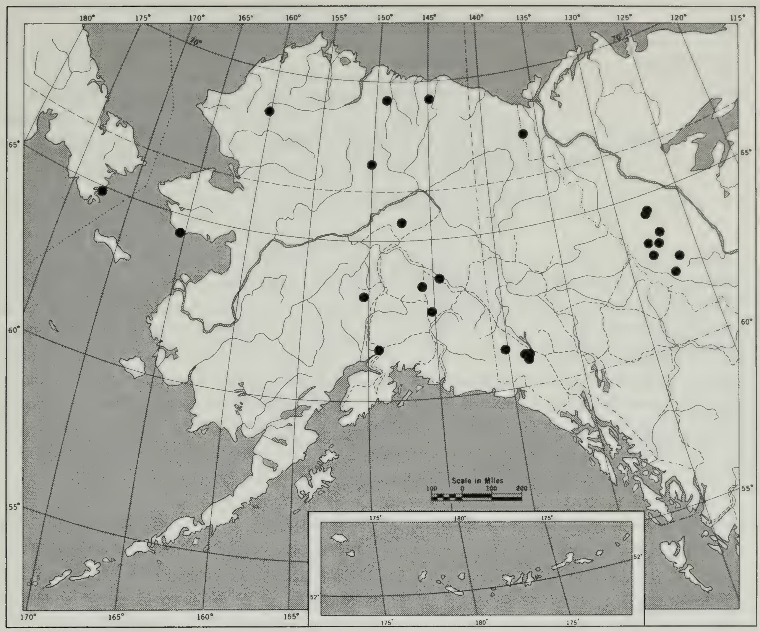
Map 10 *Salix rotundifolia* ssp. *rotundifolia.* Circles based on Skvortsov, 1966

tories. It also occurs sporadically throughout the range of ssp. *rotundifolia* in Alaska (Map 11).

Discussion

Salix rotundifolia is a dwarf, largely subterranean shrub characterized by circular or elliptic leaves which have 3-4 prominent veins and are glossy and green on both sides. The aments have few flowers (4-15) and the nectaries usually exceed the stipes.

There is some variation in pistil indumentum from usually glabrous to sometimes sparsely pubescent on the beak or, rarely, sparsely pubescent all over. The pubescent-capsuled variants have been named *S. rotundifolia* f. *pilosiuscula* Schneider (1919*a*), and Hultén (1943) regarded specimens with pilose capsules as the hybrid *S. phlebophylla* × *rotundifolia.* To base a conclusion of hybridity on pistil indumentum alone is unsound, for it requires the assumption that this characteristic is invariable. There are several species in Alaska and the Yukon which have been shown to have variable pistil pubescence, including *S. hookeriana, S. reticulata, S. ovalifolia* and *S. phlebophylla,* and the possibility that the pilose-capsuled forms of *S. rotundifolia* are part of the normal variation within this species must be seriously entertained.



Map 11 *Salix rotundifolia* ssp. *dodgeana.* Siberian locality: C. Wright, 1853-1856, Arakamechetchene Island, NY, US 26252

However, hybridization apparently does occur between *S. phlebophylla* and *S. rotundifolia* and, within sympatric populations, intermediate specimens can be detected on the basis of discordant combinations of characteristics including leaf shape, leaf pubescence, skeletonization of leaves, nectary length, and pistil indumentum. On the basis of these characteristics I have determined a series of specimens from the Arctic slope and central Alaska as *S. rotundifolia* > *phlebophylla* and *S. phlebophylla* > *rotundifolia* to indicate the varying degrees of intermediacy. There are no evident signs of infertility in the intermediate specimens and further study is necessary in order to establish the origin of the intermediates and to prove the occurrence of hybridization (Map 2).

Salix rotundifolia is closely related to *S. phlebophylla* and *S. nummularia* (Table 4), and is similar to *S. polaris* and *S. stolonifera* (Table 2).

In 1967 Hultén noted that *S. behringica* had long been neglected by most modern authors and that the type specimen was probably destroyed when the Berlin Museum was bombed. There is a fragment of the type collection at the U.S. National Herbarium which I have been able to examine (*Krause, A. & A. 85,* Luetke Harbour, St. Lawrence Bay, Siberian Coast of Bering Sea, 1881, US 411218). The specimen consists of 3 leaves and 4 somewhat damaged capsules. The leaves are elliptic, glabrous and non-glaucous; the cap-

Table 3 Comparison table: *Salix rotundifolia* ssp. *rotundifolia* and ssp. *dodgeana*

Characteristics	ssp. *rotundifolia*	ssp. *dodgeana*
leaves	5-10-14 mm long	4-6 mm long
	4.2-6-9 mm wide	1.7-3.6 mm wide
	length/width (0.9) 1.2-1.3 (2.2)	length/width 1.7-2.7
	apex round to retuse, rarely acute	apex acute and ±conduplicate when pressed
	veins prominent above	veins faint above
petiole length	1.4-2-3 mm	0.8-1.6 mm
pistillate aments	4-12-flowered	2-4(9)-flowered

Table 4 Comparison table: *Salix rotundifolia, S. phlebophylla* and *S. nummularia*

Characteristics	*rotundifolia*	*phlebophylla*	*nummularia*
leaves	often persistent, not skeletonized	persistent and skeletonized	not persistent
	glossy	highly glossy	glossy
	not arcuate, pressing flat	arcuate, conduplicate when pressed	not arcuate, usually pressing flat
pistillate aments	4-12(15)-flowered	25-flowered	4-5-flowered
pistils	glabrous	usually pubescent	glabrous
nectary length	1-3 times stipe	less than or equal to stipe	about 2 times stipe
capsule length	4-6-7.2 mm	2.9-4.8 mm	ca. 3.5 mm
habitat	wet tundra	dry tundra	dry tundra

sules and stipes are glabrous and the nectaries are slightly longer than the stipes. I am of the opinion that this fragmentary material represents *S. rotundifolia.*

Salix rotundifolia ssp. *dodgeana* is a diminutive race of the species which is distinguishable only on the basis of quantitative characters (Table 3). *Salix dodgeana* traditionally has been given a very narrow circumscription (Raup 1959). However, when the variation, present even within the type locality, has been taken into consideration it is evident that it intergrades with *S. rotundifolia* (Argus 1969). It has been assigned subspecific rank because of its distinctive cordilleran distribution.

9. *SALIX NUMMULARIA* Anderss.

S. nummularia Anderss. *in* DC. Prodr. 16 (2): 298. 1868.

S. tundricola Schljak. Bot. Mater. Herb. Bot. Inst. Akad. Nauk SSSR 16: 67. 1954. *S. nummularia* ssp. *tundricola* Löve and Löve, Bot. Not. 114: 51. 1961.

Description of species

Dwarf, trailing shrubs; branches slender, arising from a stout caudex, chestnut brown, glossy, glabrescent and sometimes glaucous; branchlets yellow brown, sparsely pubescent with spreading trichomes. Leaves subcircular, the largest mature leaves about 10-12 mm long, 8-10 mm wide and 1.2 times as long as wide; apex round to retuse; base subcordate to round; margins entire but with 3-4 pairs of glands or glandular teeth on lower half; mature leaves glabrous and glossy on both sides, green and non-glaucous beneath, the lowermost leaves with sparse, long trichomes beneath, venation prominently reticulate and with 4-5 pairs of secondary veins, leaves may persist for 2-3 years but are more commonly deciduous each year; petioles 1.5-2 mm long, reddish; stipules minute glandular lobes. Aments probably coetaneous or serotinous, on short floriferous branchlets with 2-3 leaves. Staminate aments unknown in the flora of North America. Pistillate aments about 3-5 mm long, 4-5-flowered, floriferous branchlets about 1.5 mm long; pistils about 2 mm long, brownish and glabrous, capsules about 3.5 mm long; styles 0.2-0.4 mm long; stigmas 0.3-0.5 mm long, 4 linear lobes; stipes about 0.4 mm long, glabrous or pubescent; nectaries 1, adaxial, about 0.8 mm long and about 2 times as long as stipe; bracts obovate, apex rounded to retuse, about 1.2 mm long, pale brown, sparsely pubescent adaxially, more or less glabrous abaxially.

Habitat

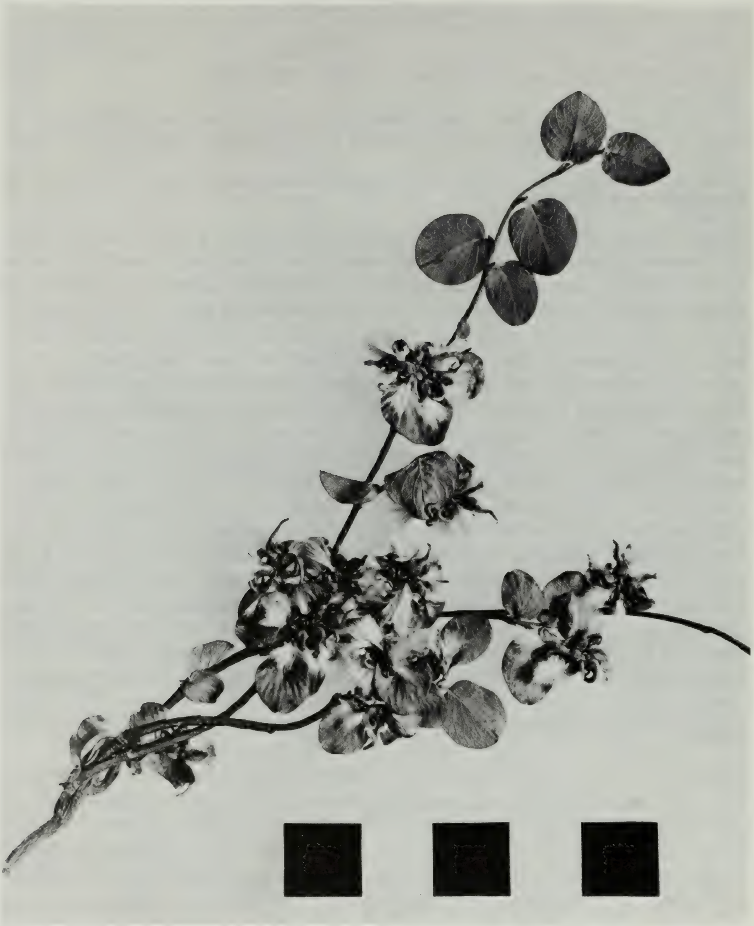
Tundra.

Range

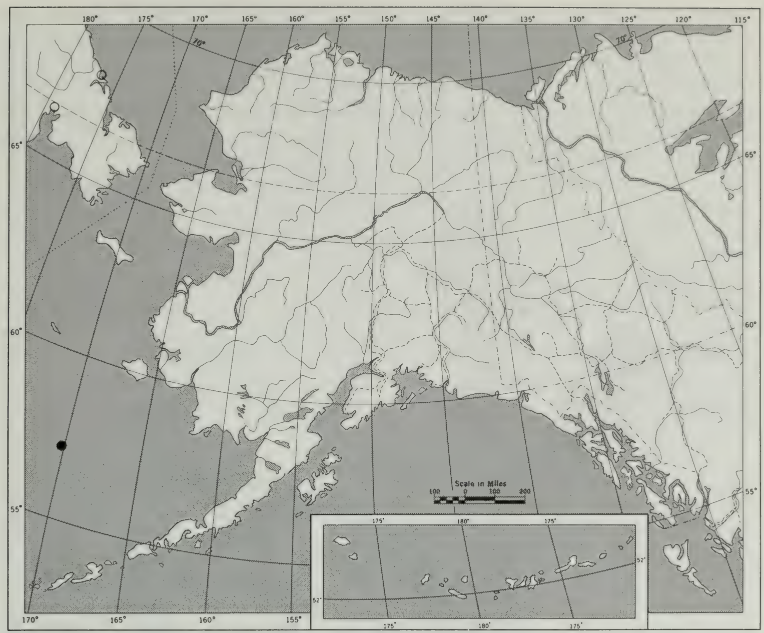
Arctic: Known in Alaska only from St. Paul Island; widely distributed in northern U.S.S.R. from the Kola Peninsula to the Chukotsk Peninsula (Skvortsov 1966) and in Transbaikalia (Map 12).

Discussion

The Eurasian *Salix nummularia* has not previously been known to occur in North America. I have seen three specimens from St. Paul Island (*Cole,* July 8-9, 1941, WIS, ISC and *Johnston,* June 14, 1925, NA) which compare very favourably with *S. nummularia* from the U.S.S.R. and seem to represent that species. This species is characterized by prominently reticulate leaves which have several glandular teeth on the lower half of the blade, aments produced by lateral buds and often elongate and trailing vegetative shoots. These characteristics contrast with *S. rotundifolia* which has non-reticulate, entire



Salix nummularia Anderss. *Skvortsov 10589,* 23 VII 1964, Northern Urals, U.S.S.R., GWA



Map 12 *Salix nummularia.* Circles based on Skvortsov, 1966

leaves, aments produced by subterminal buds and short vegetative shoots (Table 4).

I am accepting the opinion of Skvortsov (1966) in treating *S. tundricola* as a synonym of *S. nummularia.* The Löve and Löve (1961) combination of these taxa which was accepted by Hultén (1968) was not accompanied by a discussion and therefore cannot be evaluated.

10. *SALIX PHLEBOPHYLLA* Anderss.

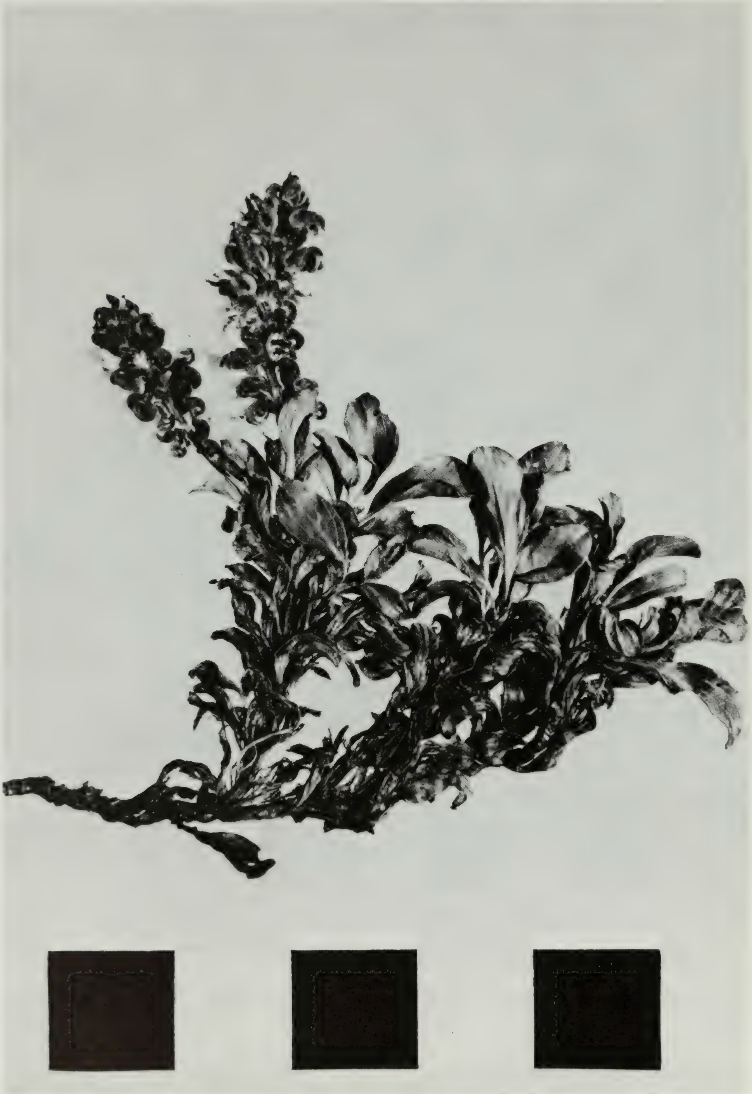
S. phlebophylla Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 131. 1858.

S. anglorum Cham. Linnaea 6: 541. 1831.

S. paleoneura Rydb. Bull. N.Y. Bot. Gard. 1: 267. 1899. (Type: *Murdock s.n.* GH).

Description of species

Dwarf shrubs forming compact mats up to 2 m in diameter, stems thick and arising from a taprooted caudex, stems partly subterranean and rooting, mostly aerial and clothed with persistent, skeletonized leaves; branches red-

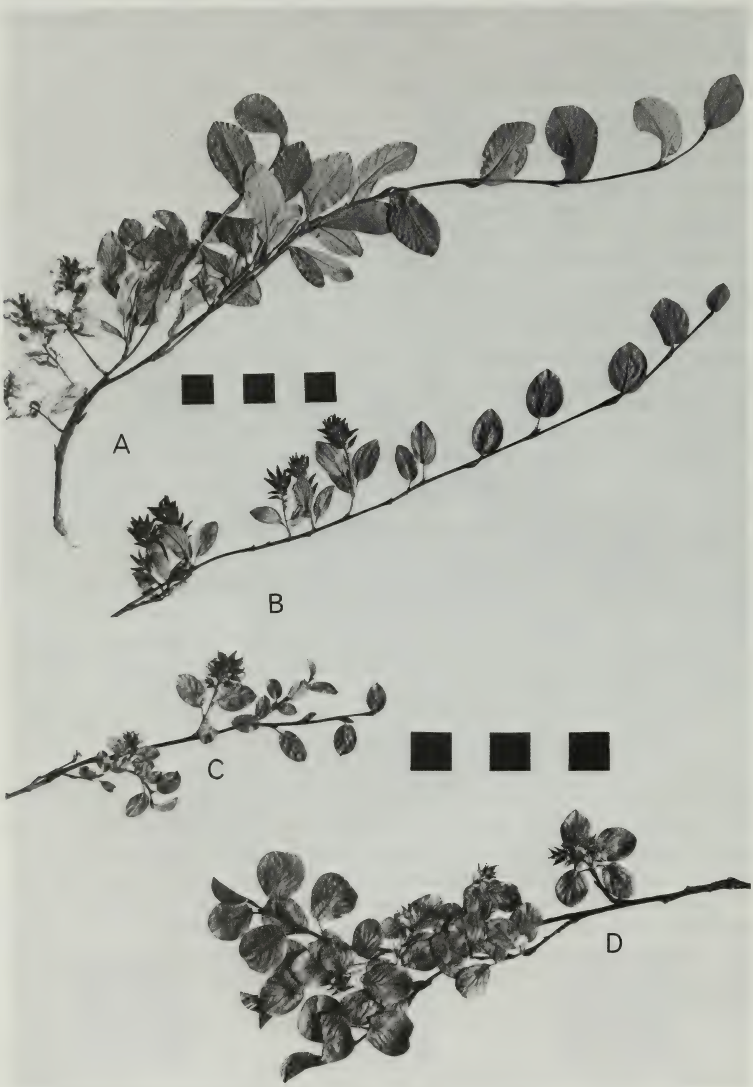


Salix phlebophylla Anderss. *Argus 5827* dish brown, glossy and glabrous; branchlets glabrous, non-glaucous. Leaves marcescent, narrowly obovate to broadly obovate or broadly elliptic, the largest mature leaves 7-11-15 mm long, (2.5) 3-5-11 mm wide and 1.1-1.7-2.3 (3.5) times as long as wide; apex obtuse, sometimes retuse, often conduplicate when pressed; base cuneate to broadly cuneate; margins entire, often reddish and somewhat ciliate; the upper side of mature leaves glabrous and glossy, the lower side sparsely pubescent with long, straight, caducous trichomes, glossy and non-glaucous, the 3-4 or 5 secondary veins and sometimes the tertiary veins prominent on both sides; petioles 1.2-2.4-3.2 (4.8) mm long, tawny and sparsely pubescent; stipules minute glandular lobes, 0.1-0.2-0.4 mm long. Aments coetaneous, borne on leafy, floriferous branchlets. Staminate aments 1.3-2.5 cm long, floriferous branchlets 5-13 mm long; stamens 2, filaments 2.5-4 mm long, glabrous; anthers 0.3-0.5 mm long; nectaries 1, adaxial or 2, adaxial and abaxial, 0.4-0.6 mm long, reddish or greenish. Pistillate aments 1.6-2.5 cm long, rachis pubescent and bearing more than 25 flowers, floriferous branchlets 0.8-2.4 cm long; pistils about 1.8 mm long, sericeous, with short, refractive trichomes, occasionally pubescent only on beak or entirely glabrous, non-glaucous, capsules 2.9-4.8 mm long, reddish, sparsely sericeous or glabrescent; styles 0.3-1 mm long, sometimes slightly bifid; stigmas 0.2-0.3 mm long, 2-lobed and broad; stipes 0.4-1.4 mm long, sparsely pubescent; nectaries 1, adaxial, 0.4-1 mm long, shorter than or equal to stipe; bracts broadly oblong, apex rounded, 1-1.3 mm long, dark brown to black or bicolour, pubescent on both sides with long straight or curly trichomes.

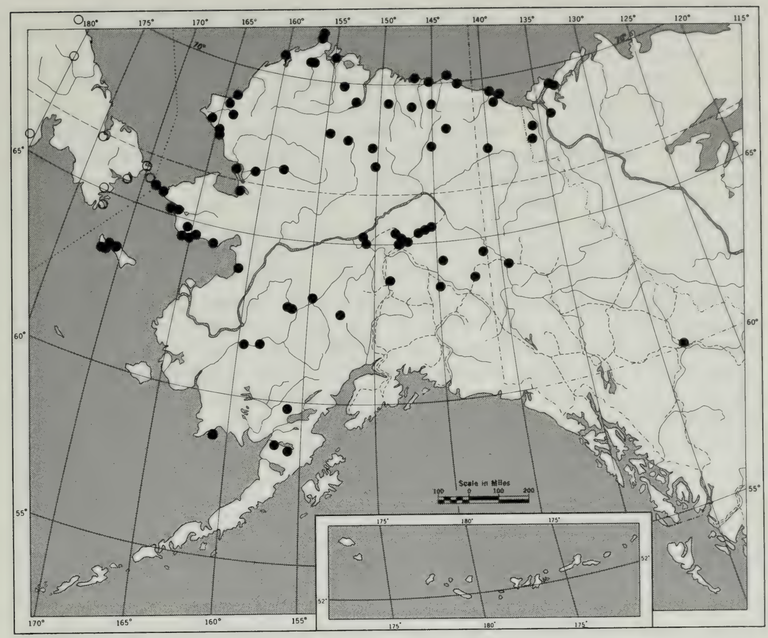
Habitat	**Range**
Tundra.	Arctic, alpine: St. Lawrence Island; northern Alaska; northern Yukon; Alaska Peninsula; mountains of central Alaska; Alaska Range; to southeastern Yukon (Map 13).

Discussion

Salix phlebophylla is a dwarf, mat-forming shrub characterized by stems bearing persistent, skeletonized leaves. Leaves may be persistent in other species, such as *S. rotundifolia* and *S. planifolia* ssp. *pulchra,* but they do not become skeletonized as in *S. phlebophylla.* The many-flowered aments, pubescent pistils and nectaries which are shorter than the stipes also distinguish this species from *S. rotundifolia.* See *S. rotunifolia* for a discussion of hybridization and Tables 2 and 4 for a comparison with related and similar species.



Salix ovalifolia Trautv. (A) Variety *arctolitoralis* (Hult.) Argus, *Argus 5945*, (B) Variety *ovalifolia, Argus 5788*, (C) Variety *glacialis* (Anderss.) Argus, *Argus 5981*, (D) Variety *cyclophylla* (Rydb.) Ball, *Harms 5649*



Map 13 *Salix phlebophylla*. Circles based on Skvortsov, 1966

11a. *SALIX OVALIFOLIA* Trautv. var. *OVALIFOLIA*

S. ovalifolia Trautv. Nouv. Mem. Soc. Nat. Mosc. 2: 306. 1832.

S. ovalifolia var. *camdensis* Schneid. Bot. Gaz. 66: 139. 1918. (Type: *Johansen 116*, CAN).

S. flagellaris Hult. Sv. Bot. Tidskr. 34: 376. 1940. (Type: *Walpole 1672*, US).

Description of species

Dwarf trailing shrubs; branches long, slender and trailing sometimes up to 45 cm long, arising from a stout caudex with a strong taproot, yellow or greenish brown, glabrous or rarely sparsely pubescent, glossy; branchlets long and trailing, yellow brown or greenish brown, glabrous or sparsely pubescent toward distal end becoming glabrescent, non-glaucous; the distal 2-3 buds vegetative, the others reproductive, buds glabrous or sparsely pubescent, bud scales persistent at base of shoot. Leaves obovate, elliptic or broadly elliptic, the largest mature leaves 1.3-1.8-2.8 cm long, 0.7-1.2-1.8 cm wide and 1.1-1.6-2.2 times as long as broad; apex obtuse, acute or round; base round, subcordate or acute, inequilaterial; margins entire, flat or slightly revolute, reddish, often ciliate; immature leaves sparsely villous with long straight trichomes, becoming glabrescent; the upper side of mature leaves glabrescent and glossy, the venation prominently reticulate, the lower side sparsely villous to glabrescent, glaucous, sometimes purplish, venation reticulate; petioles 2-4-7 mm long, reddish or yellow, concave adaxially and glabrous or sparsely ciliate; stipules minute glandular lobes, 0.2-0.6 (1.6) mm long, the longer are narrowly elliptic prophylla sometimes with glandular margins. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 0.6-1.8 cm long, floriferous branchlets 0.3-1.2 cm long; stamens 2, filaments 2-3.6 mm long, distinct and glabrous; anthers 0.3-0.5 (0.6) mm long. Pistillate aments 0.9-1.5-2.8 cm long, floriferous branchlets 0.5-1.5-2.5 cm long; pistils 2.5-4 mm long, dark purple, reddish or reddish brown, glabrous and glaucous with about 11 per cent somewhat pubescent, capsules 5.2-6.5 mm long, greenish or reddish brown, glabrous and glaucous; styles 0.2-0.8 mm long; stigmas 0.3-0.6 mm long, 4-lobed; stipes 0.2-0.7-1.4 mm long, glabrous or sometimes pubescent; nectaries 1, adaxial, rarely 2, adaxial and abaxial, 0.5-1-1.4 mm long, with two linear or several irregular lobes, reddish, 1-3 times as long as stipe; bracts narrowly to broadly oblong, apex rounded or rarely acute, 1.2-2 mm long, dark brown to blackish, sometimes bicolour and reddish at base, sparsely pubescent with straight or curly trichomes.

Habitat	**Range**
Usually at sea level on coastal beach ridges; gravel spits; wet, *Carex aquatilis-Eriophorum* meadows; saline marshes; occasionally in upland tundra.	Arctic: Firth River, Yukon Territory; westward along the coast to Alaska Peninsula; Kodiak Island; Aleutian Islands; Asia: Chukotsk Peninsula (Map 14).

11b. *SALIX OVALIFOLIA* var. *ARCTOLITORALIS* (Hult.) Argus

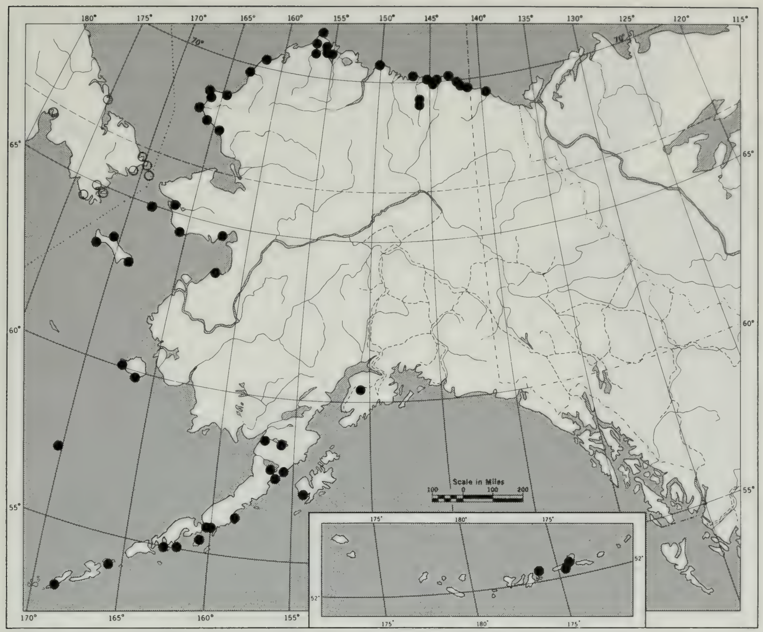
S. ovalifolia var. *arctolitoralis* (Hult.) Argus, Can. J. Bot. 47: 795. 1969.

S. arctolitoralis Hult. Sv. Bot. Tidskr. 34: 373. 1940. (Type: *Anderson 4705,* US).

Description of variety

Differs from var. *ovalifolia* in leaves sometimes narrowly elliptic, the largest mature leaves 2.5-4.6 cm long, 1-2.2 cm wide and 1.6-3.4 times as long as wide; petioles 4-16 mm long. Pistillate aments 2.2-5 cm long, floriferous branchlets 1-4 cm long; pistils 5.2-9.6 mm long.

Habitat	**Range**
Sea level; coastal beach ridges and sand spits; tundra meadows; low ridges near coast.	Arctic: Northeastern Alaskan coast; Unalakleet to Point Lay; northern Yukon; Mackenzie Delta (Map 15).



Map 14 *Salix ovalifolia* var. *ovalifolia.* Circles based on Skvortsov, 1968

11c. *SALIX OVALIFOLIA* var. *CYCLOPHYLLA* (Rydb.) Ball

S. ovalifolia var. *cyclophylla* (Rydb.) Ball, Proc. Nat. Acad. Sci. 21: 184. 1935.

S. cyclophylla Rydb. Bull. N.Y. Bot. Gard. 1: 274. 1899. (Type: *Macoun 16645,* NY).

S. rotundata Rydb. ex Macoun, Plants Pribilof Is., *in* D. Jordan, Fur Seals and Fur-Seal Is. N. Pacific Ocean 3: 571. 1899, nom. nud., non Forbes 1829.

Description of variety

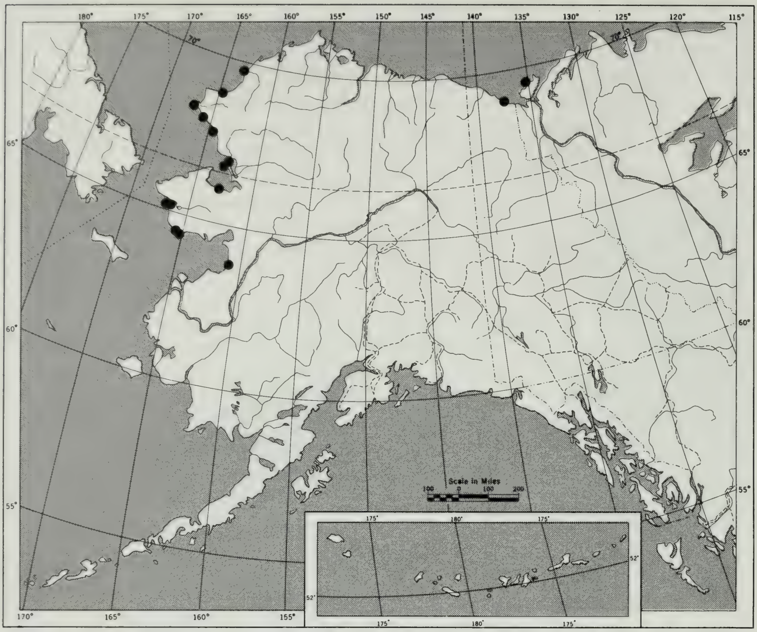
Differs from var. *ovalifolia* in leaves subcircular, apex round or retuse, the largest mature leaves 1-1.5 times as long as wide, prominently reticulate above; branches stout, not as conspicuously trailing.

Habitat

Sea level to ca. 100 ft on shores of lakes and lagoons; *Empetrum* tundra;

Range

Arctic: Bering Sea islands; Aleutian Islands; from Rat Islands to Stepovak



Map 15 *Salix ovalifolia* var. *arctolitoralis*

in moss on rocky pavement; meadows; beach ridges.

Bay, Alaska Peninsula (Map 16).

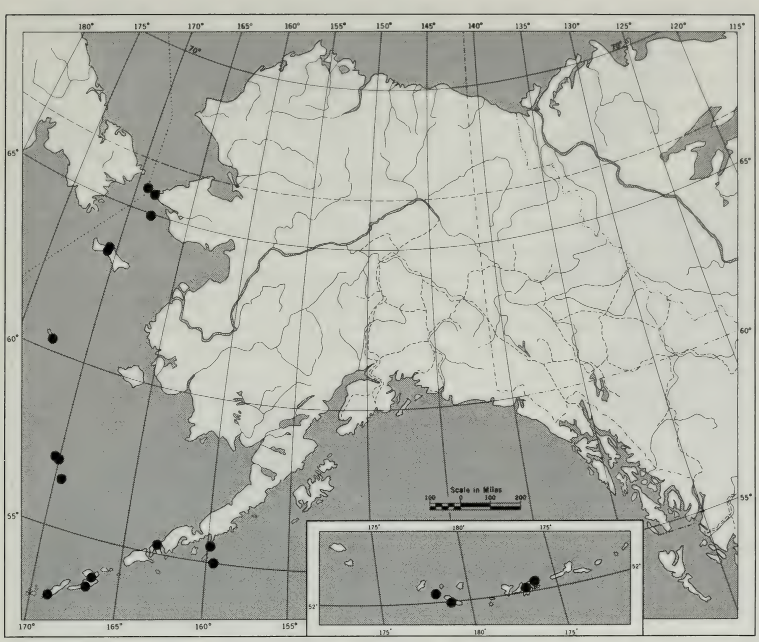
11d. *SALIX OVALIFOLIA* var. *GLACIALIS (*Anderss.) Argus

S. ovalifolia var. *glacialis* (Anderss.) Argus, Can. J. Bot. 47: 798. 1969.

S. glacialis Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 131. 1858.

Description of variety

Differs from var. *ovalifolia* in leaves sometimes ovate, the largest mature leaves 8.5-14 mm long, 4.5-7-9 mm wide; mature leaves sparsely pubescent to glabrescent on both sides; margins remaining ciliate; petioles 1.1-3.2 mm long. Staminate aments 4-9 mm long and globose, floriferous branchlets 2-3 mm long. Pistillate aments 0.7-1.3 cm long and globose, floriferous branchlets 2-8 mm long; pistils pubescent or rarely glabrous, capsules 4.3-5.2 mm long, non-glaucous, 85 per cent pubescent or at least partly so, 15 per cent glabrous; stipes 0.2-0.8 mm long.



Map 16 *Salix ovalifolia* var. *cyclophylla*

Habitat

Coastal sandy-gravel spits.

Range

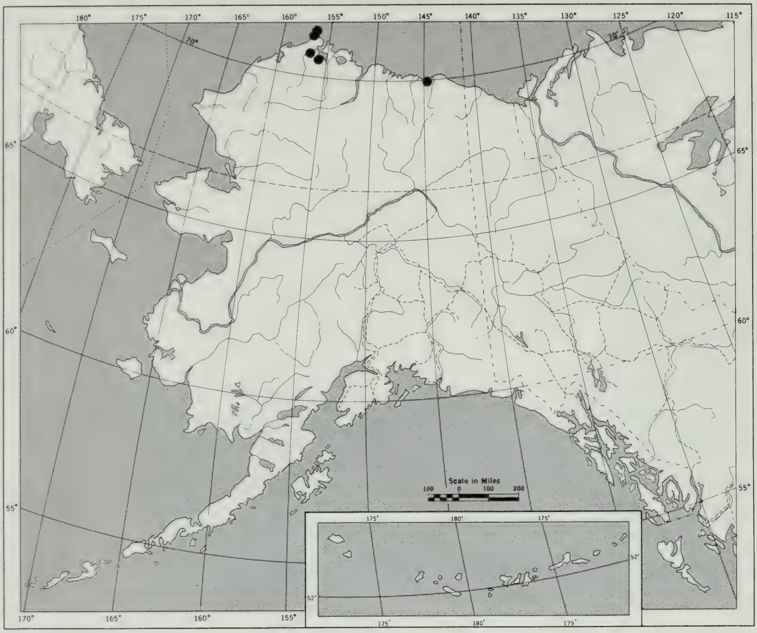
Arctic: Point Barrow; Meade River; Topagoruk River; possibly Collinson Point, Camden Bay (Map 17).

Discussion

Salix ovalifolia is characterized by a dwarf, trailing habit, glabrous and often glaucous pistils, nectaries 1-3 times as long as the stipes and styles 0.2-0.8 mm long.

This species is closely related to *S. stolonifera* and with that species constitutes an arctic-alpine complex occurring in coastal Alaska and Yukon. There is a zone of overlap between these species from the Kenai Peninsula to Kodiak Island and King Cove, Alaska Peninsula, within which intergradation may occur. However, the material available to me is inadequate to determine whether or not the taxa hybridize and to what degree they intergrade. Because of this lack of information and because each of the taxa occupy different kinds of habitats, I am treating them as species.

Salix ovalifolia consists of four varieties: 1) var. *ovalifolia*, 2) var. *arctolitoralis*, 3) var. *cyclophylla*, and 4) var. *glacialis*. *Salix ovalifolia* var. *ovali-*



Map 17 *Salix ovalifolia* var. *glacialis*

folia is a wide-ranging taxon occurring throughout the range of the other varieties. It generally occupies habitats close to the ocean and is characterized by long, trailing branches and branchlets bearing small, obovate to elliptic or sometimes subcircular leaves and glabrous and glaucous pistils.

Salix ovalifolia var. *arctolitoralis* has a disjunct distribution in northwestern Alaska and the Mackenzie Delta region. It is characterized by large, sometimes narrowly elliptic leaves, large aments, large floriferous branchlets and large pistils. It is essentially a robust form of the species and, as suggested by its disjunct distribution, may be simply an environmental modification. However, because of its characteristic appearance I have recognized it as a variety until the necessary study has been completed (Argus 1969).

Salix ovalifolia var. *cyclophylla* is a Bering Sea variant of the species characterized by cubcircular, prominently reticulate leaves and branchlets often not as long and trailing as in the other varieties. Hultén (1967) notes that this taxon seems to occupy upland rather than coastal habitats and for that reason he would treat it as a species. In general his observation seems to be supported. However, I have seen specimens of this variety from "sea level" and the occasional specimen of var. *ovalifolia* from upland situations. This taxon seems to be insufficiently distinct morphologically to be treated as a species.

Salix ovalifolia var. *glacialis* is an unusual variant of the species with a very limited distribution on the Arctic Coast of Alaska. The type material, which I have not seen, was collected by Captain Pullen, "between Cape Barrow and Mackenzie River" (Andersson 1858) and may have been collected from the extensive Point Barrow population located on the sand spit between the air strip and the old Eskimo village of Nuwuk. Andersson's (1858) description depicts very well the distintive Point Barrow population which is characterized by small, ovate leaves with ciliate margins, small globose aments, short floriferous branchlets and usually pubescent pistils. Point Barrow has been visited by many botanists and there are numerous specimens of this taxon from the vicinity of Nuwuk. The overwhelming number of specimens alone gives this taxon a disproportionate significance and it may not even deserve varietal rank. However, it is a distintive local variant which may prove to have some phytogeographic or evolutionary significance and for that reason I have assigned it varietal status (Argus 1969).

Two of these varieties, the distinctive var. *glacialis* and the large var. *arctolitoralis,* are quantitatively distinct from one another in reference to leaf length, leaf width, leaf length/width, petiole length, floriferous branchlet length and pistillate ament length (Fig. 2). However, their range of variation overlaps that of the other varieties and the species as a whole presents a completely intergrading variation pattern. Pistil indumentum also varies significantly within the species. An analysis of pistil indumentum in population samples of var. *ovalifolia* and var. *glacialis* and in herbarium specimens of var. *arctolitoralis* and var. *cyclophylla* is shown on the graph in Fig. 3. Within the species, excluding var. *glacialis,* 60 per cent of the pistils are glabrous and glaucous, 29 per cent glabrous and 11 per cent variously pubescent. In var. *glacialis* pistil indumentum varies conversely. Within the Point Barrow population 86 per cent of the pistils are pubescent, although sometimes only sparsely so, and 14 per cent are glabrous.

Pistil indumentum in *Salix* has been assumed to be relatively invariable and variation in pistil indumentum such as described here is often attributed to hybridization. If we accept this assumption as an explanation of variation in pistil pubescence in *S. ovalifolia,* an argument could be made for hybridization between: 1) the sympatric *S. ovalifolia* var. *glacialis* (pubescent pistils) and *S. rotundifolia* (glabrous pistils), and 2) the glabrous-pistilled varieties of *S. ovalifolia* and the pubescent-pistilled *S. phlebophylla* or *S. arctica.* However, such a conclusion based on single character variation is untenable unless it is supported by additional evidence of hybridization, such as a reduction in fertility or a recombination of other characteristics. Only in the case of several specimens of the putative hybrid *S. arctica* × *ovalifolia* were other characteristics found to be recombined (see *S. arctica* and Table 6). It is therefore concluded that the variation in pistil indumentum described here is the normal variational pattern for the species and not the result of hybridization.

Hultén (1968) regards *S. glacialis* as the hybrid *S. arctica* × *ovalifolia.* However, this assumption is unlikely since at Point Barrow, where *glacialis* is most abundant, neither *S. arctica* nor "typical" *S. ovalifolia* occurs.

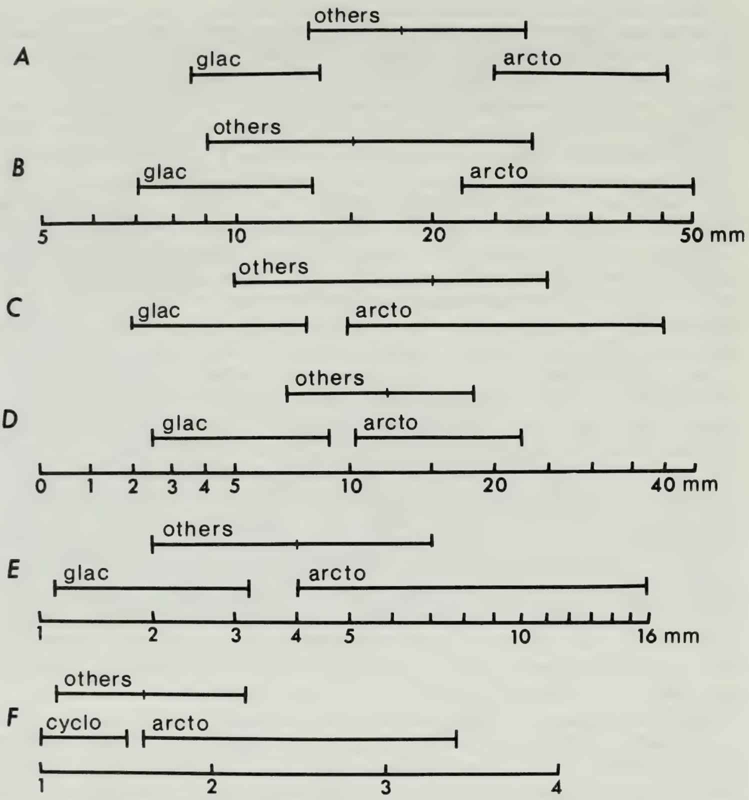


Fig. 2 The variation of some morphological characteristics in *Salix ovalifolia:* (A) leaf length, (B) pistillate ament length, (C) floriferous branchlet length, (D) leaf width, (E) petiole length, (F) relative leaf shape (length/width). Code: glac = var. *glacialis,* arcto = var. *arctolitoralis,* cyclo = var. *cyclophylla.* Logarithmic scales used in A-E.

---

12. *SALIX STOLONIFERA* Cov.

S. stolonifera Cov. Proc. Wash. Acad. Sci. 3: 333. 1901. (Type. *Walpole 1075,* US).

Description of species

Dwarf shrubs arising from a stout caudex, the short branches may trail on the surface or if buried may spread underground rhizomatously; branches dark reddish brown, glabrous and glossy, sometimes glaucous; branchlets greenish

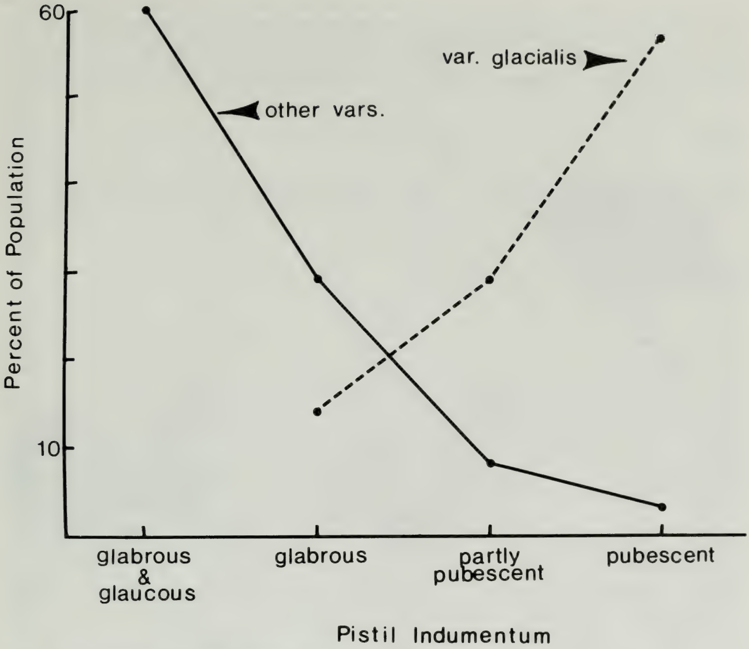
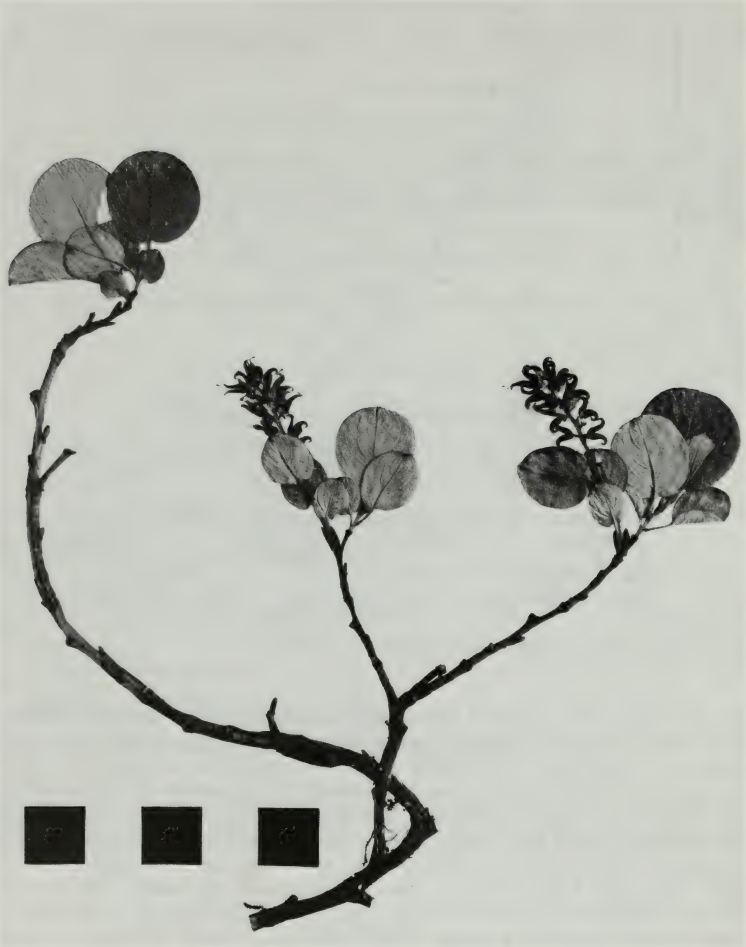


Fig. 3 The variation in pistil indumentum in *Salix ovalifolia*

or greenish brown, glabrous and glossy, sometimes glaucous; buds glabrous and usually glaucous. Leaves broadly obovate or broadly elliptic, sometimes elliptic or subcircular, the largest mature leaves 1.6-4.2 cm long, 1.2-3 (3.8) cm wide and 1-1.5-1.9 times as long as wide; apex round, obtuse or retuse, more or less conduplicate when pressed; base round, obtuse or acute, sometimes inequilateral and more or less conduplicate when pressed; margins entire or with several irregularly spaced glands or glandular teeth on lower half; the upper side of mature leaves glabrous or pubescent near margin, glossy and plane or subreticulate, the lower side sparsely pubescent to glabrescent, glaucous; petioles 3-9-20 mm long, tawny or reddish tawny, concave adaxially and glabrous or ciliate; stipules usually small glandular lobes 0.2-0.4-1.2 mm long, rarely absent or narrowly elliptic. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 1.2-2 cm long, floriferous branchlets 0.4-1 cm long; stamens 2, filaments about 4.5-4.8 mm long, glabrous, distinct; anthers 0.5-0.6 mm long. Pistillate aments 1.5-3-3.7 cm long in fruit, floriferous branchlets 0.8-2.5-6 cm long; pistils 4-5.6 mm long, greenish reddish brown or greenish yellow, glabrous or the beak sparsely pubescent, glossy, sometimes glaucous; styles (0.6) 0.8-1.4-1.6 mm long; stigmas 2-4-lobed, 0.2-0.6 mm long; stipes 0.2-0.6-0.8 mm long,

Plate X



Salix stolonifera Cov. *Argus 6772*

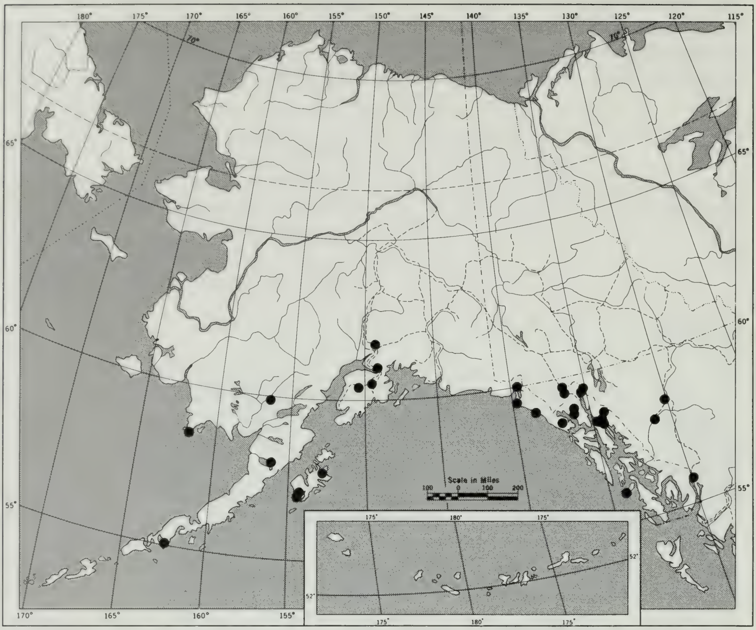
glabrous, pubescent if pistil is so; nectaries 1, adaxial, 0.5-1.2 mm long, (0.8) 1.5-3 times stipe; bracts broadly oblong, apex rounded, 1.6-2 mm long, brown to dark brown, sparsely pubescent to glabrescent, adaxially more or less pubescent with long straight or curly trichomes usually 2 times as long as bract.

Habitat	**Range**
Tundra: slide rock; moraine; sandy lake margins; to sea level.	Alpine: Southern coastal Alaska from King Cove, Alaska Peninsula to Kodiak Island; Cape Peirce to the Kenai Peninsula; southeastern Alaska and adjacent British Columbia (Map 18).

Discussion

Salix stolonifera is characterized by long styles, 0.8-1.6 mm long, glaucous branches and buds, and a tendency for buried branches to produce yellowish underground shoots. Coville (1901) referred to these shoots as "stolons". In the original description of *S. stolonifera,* he contrasted it with *S. ovalifolia* emphasizing its characteristic "production of slender, leafless, subterranean branches or stolons", and the absence of glaucescence on the capsules. The presence of subterraneous branches is more or less characteristic of the species but this condition seems to occur only in unstable habitats with an aggrading ground surface. Many specimens of *S. stolonifera* from southern coastal Alaska lack subterranean branches and have long branches trailing on the surface similar to *S. ovalifolia.* The absence of capsule glaucescence is superficially distinctive but I have seen some specimens of *S. stolonifera* which have glaucous pistils, and in *S. ovalifolia* about 30 per cent of the specimens have non-glaucous pistils (Fig. 3). Clearly these taxa are closely related and I have seriously considered combining the two as suggested by Raup (1959); however, because of their distinctive eco-geographical distribution and in the absence of evidence of intergradation in the narrow zone of overlap (Alaska Peninsula and Kodiak Island), I have decided to treat them as species.

Some of the variation within *Salix stolonifera* may be attributable to hybridization. I have collected specimens from two possible hybrid swarms involving *S. stolonifera, S. arctica* and *S. barclayi.* The hybrid swarm in the Glacier Bay area is located on a wet, unstable clay-gravel morainal slope near Goose Cove, Muir Inlet. The open vegetation cover is dominated by *Dryas drummondiana* and *Salix* with patches of *Alnus incana* and *Salix arctica.* Many of the *Salix*, including *S. stolonifera, S. barclayi, S. arctica, S. sitchensis, S. commutata* and *S. reticulata,* are prostrate or only up to 3 dm tall. In this area I collected a series of putative hybrids including *S. arctica* × *stolonifera* and *S. barclayi* × *stolonifera.* The hybrids *S. arctica* × *stolonifera* are distinguished by their more or less pubescent pistils, narrowly obovate leaves which are often cuneate at the base, pubescent beneath, and by their prominent stipules. The hybrids *S. barclayi* × *stolonifera* are characterized by small leaves that are irregularly glandular serrulate, some young leaves reddish green, and a prostrate habit. A second



Map 18 *Salix stolonifera*

hybrid swarm is located on Mount Glave in northwestern British Columbia on the Haines Highway between Alaska and the Yukon. The habitat is a partly stabilized scree slope and adjacent alpine slopes are vegetated with *Empetrum nigrum, Phyllodoce, Potentilla fruticosa, Salix stolonifera, S. reticulata, S. arctica* and scattered *S. planifolia* ssp. *pulchra* thickets. In this area there are some very robust specimens which I have tentatively determined as *S. arctica* × *stolonifera. Salix stolonifera* requires study first, to determine its relationship with *S. ovalifolia* and secondly, to assess its capacity to hybridize with other species in the mountains of southeastern Alaska.

In 1969 Hultén stated that the occurrence of *Salix stolonifera* in the Kodiak Island refugium (NNW of Amara Lake) contributes to the tendency toward endemism which occurs in that area, and that this species may have survived the Wisconsin glaciation in that refugium. It is probable that *S. stolonifera* did survive the glaciation in the Pacific coastal region, but its present distribution suggests that it may have survived in more than one refugium — at least on the Kenai Peninsula (Heusser 1960) and in the region south of Yakutat Bay. Its apparent absence between Yakutat Bay and the Kenai Peninsula may be a collecting hiatus. However, if it is real, it would support the hypothesis that this species survived the glaciation in more than one refugium.

The report of an isolated occurrence of *S. stolonifera* in central Alaska (Hultén 1968, Map 19) is doubtful, and Hultén's material should be reexamined.

---

13. *SALIX SETCHELLIANA* Ball

S. setchelliana Ball, Univ. Calif. Publ. Bot. 17: 410. 1934. (Type: *Setchell 587,* US).

S. aliena Flod. Sv. Vet. Akad. Ark. Bot. 27A: 1. 1935.

Description of species

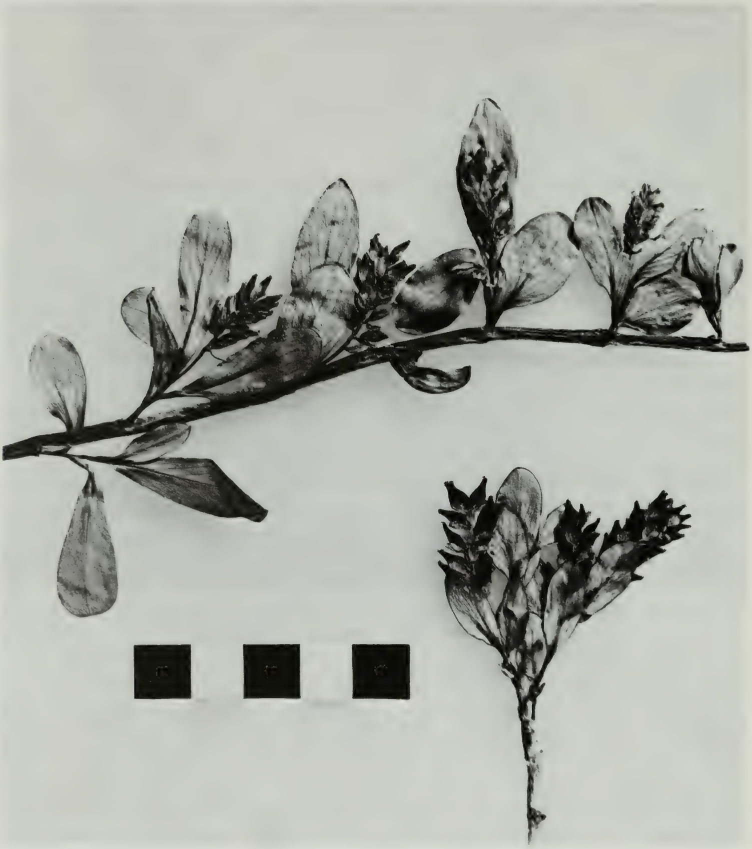
Prostrate or semiprostrate shrubs up to 25 cm tall; branches grey brown to reddish brown, bark loose and coriaceous, often grey lanate; branchlets reddish, densely white lanate becoming grey lanate or glabrate, rarely reddish and glabrous from start. Leaves coriaceous, narrowly obovate, the largest mature leaves 2.5-6.6 cm long, 1-2 cm wide and 2-3.9 times as long as wide; apex round to obtuse or acute; base tapering into the short petiole or sometimes acute; margins entire to glandular serrulate or irregular glandular crenate; the upper side of mature leaves lemon green, glabrous, venation impressed, the secondary veins tapering toward base, the lower side glabrous, glaucescent or pale yellow green; petioles short 0-3 mm long, glabrous, reddish, sometimes glaucous, rarely inflated around buds, the branchlet below the petiole glabrous and appearing to be a part of it; stipules absent or small glandular lobes about 0.3 mm long. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 1.3-2 cm long, floriferous branchlets 0.7-1.3 cm long; stamens 2, filaments 2.8-3.2 mm long, glabrous or sparsely villous at base; anthers 0.6-0.8 mm long, slender; nectaries 2, abaxial and adaxial, about 0.6 mm long; bracts 2-2.8 mm long, greenish to golden brown, glabrous. Pistillate aments 4-20-flowered, 1.5-2.5 cm long, floriferous branchlets 1-2 cm long; pistils 3.5-4.8 mm long, brick red, glabrous, capsules 3.6-10 mm long, grey brown to brick red; styles 0.3-0.4 mm long, bifid to base; stigmas 0.4-0.5 mm long; stipes 0-0.6 mm long, glabrous; nectaries 1, adaxial, 0.8-1 mm long, equal to or up to 1.33 times as long as stipe; bracts broadly obovate, apex rounded and erose or entire, 2-3.6 mm long, papery, golden tawny, glabrous.

Habitat

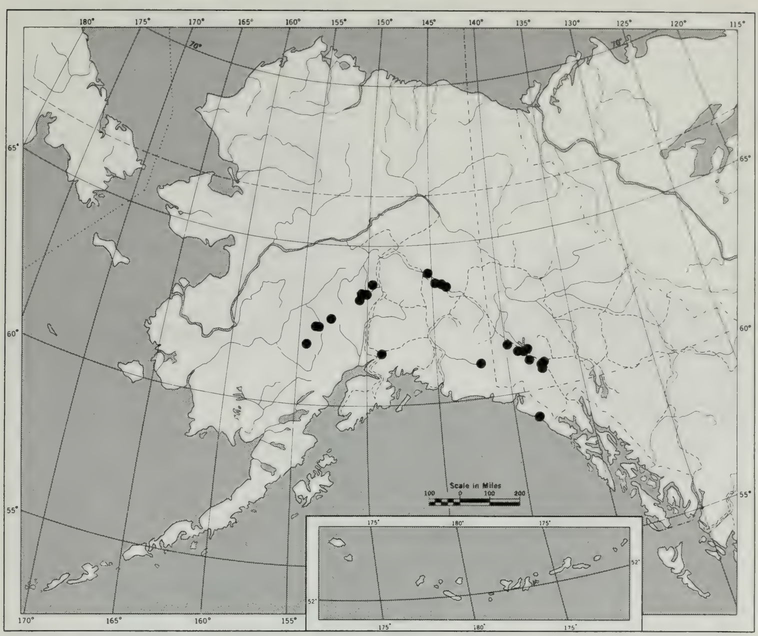
Pioneer on sandy beaches, sandy-gravel margins of glacial rivers, and on glacial moraine.

Range

Montane: Alaska Range; Kuskokwim River; upper Tanana River; Matanuska River; Chitina River; southwestern Yukon and adjacent coastal Alaska (Map 19).



Salix setchelliana Ball. *Anderson 8431* (top) and *Murray 365* (bottom)



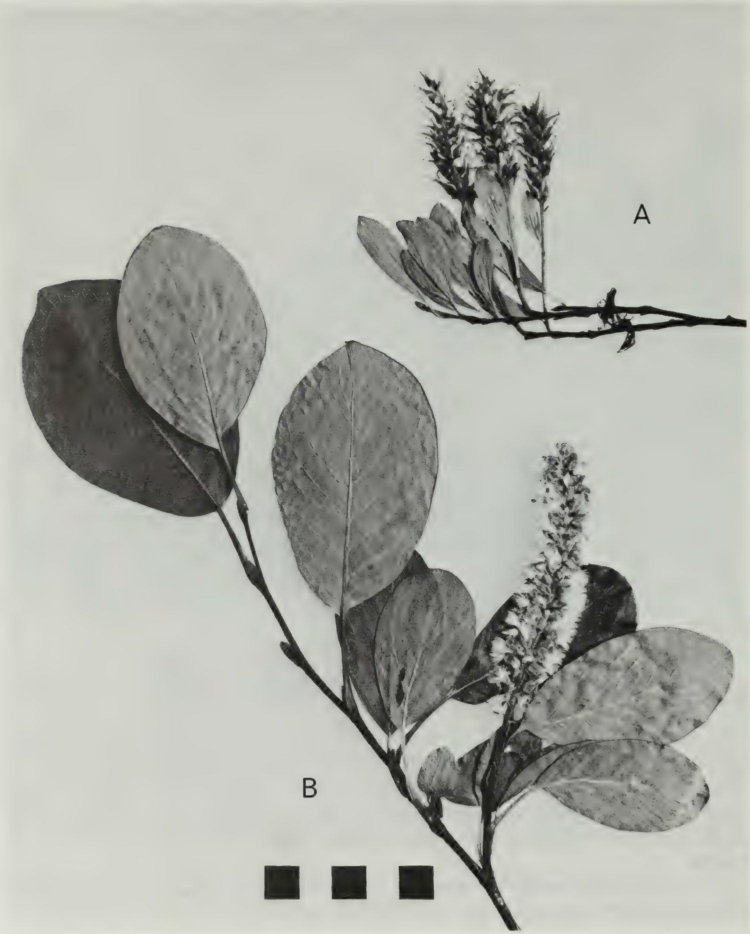
Map 19 *Salix setchelliana*

Discussion

Salix setchelliana is a highly distinctive willow growing on unstable morainal and alluvial surfaces associated with glacial streams. It is characterized by a prostrate habit, branches with leathery, loose, reddish bark, usually lanate branchlets, and coriaceous, lemon green leaves on very short petioles. The pistils are brick red and almost completely surrounded by the golden tawny bracts.

It is not closely related to any North American species but does seem to have some affinities with the European *S. retusa* L. and is included here in section *Retusae.*

The isolated locality for *S. setchelliana* from the north slope of the Brooks Range (Hultén 1968, Map 3) was probably based on Spetzman's (1959) report of this species from the Itkillik River. I was unsuccessful in obtaining documentation for this report from the University of Minnesota Herbarium and it is possibly based on a misidentification.



Salix arctica Pall. (A) Arctic coastal form, *Argus 5914*, (B) Pacific coastal form, *Argus 6484*

Section 7. Glaucae Pax

14. *SALIX ARCTICA* Pall.

S. arctica Pall. Fl. Ross. 1: 86. 1788.

S. arctica R. Br. Bot. Ross Voy. App. 143. 1819, nom. nud. *S. arctica* R. Br. ex Richards. Bot. App. *in* Frankl. J. 752. 1823.

S. anglorum Cham. Linnaea 6: 541. 1831, attempt to validate *S. arctica* R. Br., but type represents *S. phlebophylla.*

S. torulosa Trautv. Nouv. Mem. Soc. Nat. Mosc. 2: 309. 1832. *S. arctica* var. *torulosa* Raup, Contr. Gray Herb. 185: 49. 1959. *S. arctica* ssp. *torulosa* Hult. Ark. Bot. II. 7: 38. 1967.

S. crassijulis Trautv. Nouv. Mem. Soc. Nat. Mosc. 2: 308. 1832. *S. arctica* ssp. *crassijulis* A. Skvortsov, *in* Tolmatchev, Fl. Arct. URSS 5: 59. 1966. *S. arctica* ssp. *crassijulis* Hult. Ark. Bot. II. 7: 38. 1967.

S. anglorum var. *kophophylla* Schneid. Bot. Gaz. 66: 130. 1918. *S. arctica* var. *kophophylla* Polunin, J. Bot. 77: 271. 1931.

S. anglorum var. *araioclada* Schneid. Bot. Gaz. 66: 133. 1918. *S. arctica* var. *araioclada* Raup, Sargentia 4: 100. 1943.

S. anglorum var. *antiplasta* Schneid. Bot. Gaz. 66: 134. 1918. *S. arctica* var. *antiplasta* Fern. Rhodora 48: 44. 1946.

Description of species

Dwarf shrubs, usually prostrate or trailing but sometimes up to 3-5 dm tall in protected habitats; branches stout or long, slender and appressed, sometimes rooting, chestnut brown to dark brown, glabrescent and sometimes glaucous; branchlets yellow green to chestnut brown, glossy, glabrous or sparsely pubescent with straggly trichomes, sometimes densely villous at first but soon becoming glabrescent, sometimes glaucous. Leaves narrowly obovate to elliptic (Arctic Ocean populations), subcircular to broadly elliptic or narrowly obovate (Bering Sea populations), obovate to narrowly obovate or broadly elliptic (Pacific Coast and interior populations), the largest mature leaves 1.9-4.5-7.6 cm long (Arctic Ocean and interior populations), 2.5-5-8.5 cm long (Bering Sea and Pacific Coast populations), 0.7-1.8-3.4 cm wide (Arctic Ocean and interior populations), 1.9-3-6 cm wide (Bering Sea and Pacific Coast populations) and 1.4-2.4-3.5 times as long as wide (Arctic Ocean, interior and Pacific Coast populations) or 1.1-1.5-2.3 times as long as wide (Bering Sea populations); apex obtuse, round or acute in narrow leaves, obtuse and conduplicate to round or retuse in broad leaves; base narrowly to broadly cuneate or round in the broadest leaves; margins entire, slightly revolute, often glandular dotted on the lower quarter of the blade; the upper side of immature leaves glabrous or sparsely pubescent, the lower side pubescent with long straight trichomes oriented toward the apex; the upper side of mature leaves usually glabrescent, indumentum may persist along the margins and on the lower half of the midrib, glossy, the lower side glabrescent, some long straight trichomes may persist near the apex producing a "bearded" apex, glaucous; petioles (3) 9-15-35 mm long, the length more or less correlated with leaf length, tawny or reddish (especially in some Arctic Ocean and interior populations), adaxially usually concave and glabrous to sparsely pubescent; stipules absent, minute glands or linear and up to 7-10 mm long. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 2.2-5 cm long, floriferous branchlets 0.9-5.5 cm long; stamens 2, filaments 4-5 mm long, glabrous and distinct; anthers 0.4-0.6-0.9 mm long (the longest in the Aleutian Islands and central Pacific Coast populations); nectaries 1, adaxial, sometimes also with a second, smaller abaxial nectary. Pistillate aments 4-8-12 cm long, 1.5-5 cm long in Arctic Ocean populations, floriferous branchlets (1) 3-8 (12) cm long; pistils reddish or tawny, densely white pubescent, capsules 5.6-9 mm long, reddish or tawny, sometimes streaked with red, sparsely pubescent or sometimes remaining densely pubescent or becoming glabrescent, glossy; styles 0.6-2.2 mm long, entire or bifid up to one third the length of style, red in life, drying purplish; stigmas 0.2-0.8 (1) mm long, 4 linear or 2 broad lobes; stipes 0.2-1.6 mm long, elongating in age, pubescent; nectaries 1, adaxial, 0.4-1.8 mm long, usually 1.5-4 times as long as stipe, rarely equal to stipe; bracts broadly oblong, apex rounded to obtuse or rarely acute, 1.6-2 mm long, uniformly brown or bicolour, apex dark brown to black (light brown bracts common in Pacific Coast populations), sparsely pubescent on both sides with long straight trichomes 2-3 times as long as bract.

Habitat

Occurring in a wide variety of tundra situations: Arctic: *Carex aquatilis* meadows; *Carex-Alopecurus* meadows; sandy *Kobresia* tundra; *Elymus-Deschampsia* vegetation on beach ridges; *Empetrum*-lichen heath; snowbed vegetation; polygonal tundra. Alpine: glacial moraine; talus slopes; *Salix-Phyllodoce* tundra; *Dryas* tundra; subalpine shrubby tundra.

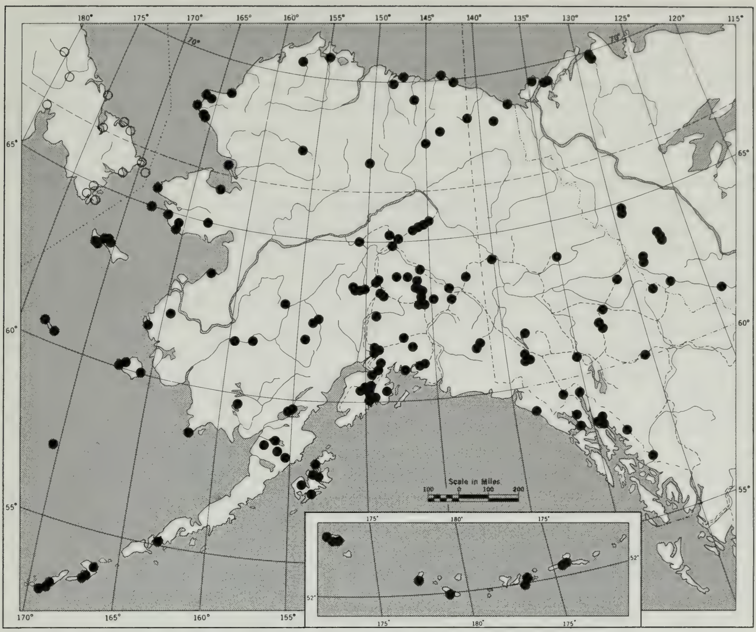
Range

Arctic, alpine and subalpine: Throughout arctic and alpine Alaska and Yukon Territory; absent from the forests in the Yukon-Tanana River region and coastal Alaska; extending eastward to Greenland; southward in the cordillera to New Mexico; circumpolar (Map 20).

Discussion

Salix arctica is characterized by a dwarf habit, elliptic to narrowly obovate or subcircular leaves, usually sparsely pubescent beneath with long straight trichomes producing a "beard" at the apex, coetaneous flowering, aments on prominent floriferous branchlets, pubescent pistils, and nectaries longer than the stipes.

This species is a taxonomically difficult circumpolar taxon—morphologically polymorphic, nomenclaturally confused and seriously in need of monographic study. It is not within the scope of this paper to conduct the critical



Map 20 *Salix arctica.* Circles based on Skvortsov, 1966

studies required to resolve the many problems; therefore, I will refer the reader to the pertinent literature and restrict myself to a few brief comments on variation and nomenclature. The synonymy cited here includes only the more important names used in the literature dealing with Alaska and the Yukon.

In Alaska and the Yukon Hultén recognizes three major geographical variations. In 1943 he treated them, tentatively, as species, *S. arctica* Pall., *S. crassijulis* and *S. torulosa,* and in 1917 he reduced them to the rank of subspecies. Every author who has commented on the taxa within *Salix arctica* has noted that, although the extremes are distinctive, they appear to be confluent and that, for the most part, only trends are evident. Therefore, even the recognition of these taxa as subspecies presents problems.

One of the most distinctive variants, *S. arctica* ssp. *crassijulis,* has its centre of occurrence in the Bering Sea, the Aleutian Islands and the Pacific coastal regions. It is characterized by a tendency toward large, subcircular leaves, although they may vary from broadly elliptic to narrowly obovate, long petioles and large fruiting pistillate aments. In short, it is a robust variant of the species with leaves tending to be somewhat broader. I have had an opportunity to make and to study population collections of this form in southeastern Alaska. In the Glacier Bay region a population collection was made on the moraine of the Casement Glacier. While collecting specimens along transect lines, I noted that the robust plants were all associated with *Alnus* thickets whereas the small plants occurred on the open moraine. It has been shown by Crocker and Major (1955) that *Alnus crispa* has the ability to fix nitrogen in the soil, probably through the association of nitrogen-fixing bacteria with its roots, and that nitrogen accumulates under alder at the rate of 62 kg/ha/per annum (55 lb./acre). Also, they showed that the development of the soil nitrogen profile depends upon plant distribution, and it is possible to assume that there are higher nitrogen levels associated with *Alnus* shrubs and lower levels in the open moraine. If this is so, then it is possible that the more robust specimens of *S. arctica* are either modified directly by the increased nitrogen levels or that such specimens are able to grow only in nitrogen-rich soils. Several authors have suggested that the smaller forms of the species are the product of more rigorous environments, but no one has proposed that the more vigorous forms may be the product of more favourable environments. The possibility that the robust plants may be the result of direct environmental modification certainly cannot be ignored. Furthermore, the geographical integrity of this taxon is not as good as it may first appear. Robust plants are most evident in western and southern coastal Alaska but similar individuals occur in central Alaska. Porsild in 1951 reported this taxon from the Canol Road, Yukon, and Raup (1959) maintained that var. *arioclada* in eastern North America could not be distinguished from it. This preliminary evidence suggests that the taxon *"crassijulis"* may be better recognized as a form rather than as a subspecies, but no new combination is proposed here.

The taxon *S. torulosa,* which is supposed to be the characteristic form of *S. arctica* in central Alaska and the Yukon, is a very elusive one. It is characterized, according to Hultén (1943 and 1968), by light brown young twigs, leaves narrower, acute, light green and more or less glabrescent in age, styles 1-1.5 mm long and light brown, oblong or pointed bracts. In my experience it is virtually impossible to distinguish this taxon on the basis of these characteristics, all of which occur outside central Alaska and the Yukon in a wide variety of recombinations. For example, light brown bracts are more common in Pacific coastal populations than in the central Alaska populations and the variation in style length in central Alaska populations, 1-2 mm long, is exactly the same as occurs anywhere else. It is possible that *S. torulosa* occurs in central Siberia and Mongolia (Skvortsov 1966) but I doubt that it occurs in North America. It is my impression from examining a large series of specimens that the central Alaska population of *S. arctica,* rather than forming a distinct geographical entity, recombines most of the characteristics of the arctic Alaska, Bering Coast and Pacific coastal populations.

In 1959 Raup recognized five "poorly defined" varieties of *Salix arctica* in western America, var. *arctica,* var. *kophophylla,* var. *araioclada,* var. *antiplasta* and var. *torulosa.* For a key to these taxa which, "will do little more than indicate trends" see Raup 1959, p. 50. This key is difficult to use, reflecting the great and confluent variability within *S. arctica.*

Those who wish to pursue this subject further will find the following references required reading: Schneider 1918*a*; Hultén 1943, 1968; Ball 1950; Raup 1959; Skvortsov 1966. There are a number of other, less important, papers which are referred to by these authors. It is important to be aware that none of these papers is monographic in its approach. In attempting to solve problems as an adjunct to other, usually floristic, considerations, the authors have often added as much to the confusion as to the elucidation of the problems at hand.

A problem almost as difficult as recognizing the variation patterns within *S. arctica* as taxa is to distinguish this species from its "relatives". In North America and Eurasia *S. arctica* is related to *S. glauca* and *S. sphenophylla* and in North America to *S. brachycarpa. Salix arctophila,* which many American authors have related to *S. arctica* (*see* that species and Table 9), is in reality related to *S. chamissonis* and only superficially resembles *S. arctica*. The characteristics which can be used to distinguish *S. arctica* from *S. glauca* and *S. brachycarpa* are few and often somewhat trivial and variable. Nevertheless, these taxa are distinct species belonging to the same section; Table 5 will aid in their identification. For a comparison with *S. sphenophylla* see Table 6.

Hybridization involving *S. arctica* seems to occur very infrequently, if at all, in Alaska and the Yukon. Skvortsov (1966) also comments that in arctic U.S.S.R. hybrids involving this species are rare. In *Flora of Alaska and Yukon,* Hultén (1943) recognized seven hybrid combinations involving *S. arctica* s.l., most of which are very difficult to substantiate, and in 1968 he cited ten taxa with which this species hybridizes. In my studies I have been able to recognize three putative hybrids in our flora: 1) *S. arctica* × *stolonifera* in the Glacier Bay and Haines regions of southeastern Alaska and adjacent British Columbia, 2) *S. arctica* × *ovalifolia* in the Bering Sea regions, and 3) *S. arctica* × *glauca* in northern Yukon (Map 1). All of these hybrids are putative, and until the variation within the species is better understood, it is very difficult to recognize hybridization.

The somatic chromosome number data for *Salix arctica* seem to suggest the presence of two chromosomal races (Table 1): tetraploid in the eastern American arctic and hexaploid in Asia and the western American arctic (Suda and Argus 1969). The pattern is disturbed by the report of a tetraploid count from Ogotoruk Creek, Alaska (Johnson and Packer 1968), but further cytological studies may reveal a differentiation pattern that could aid in the solution of the taxonomic problems in this very difficult species.

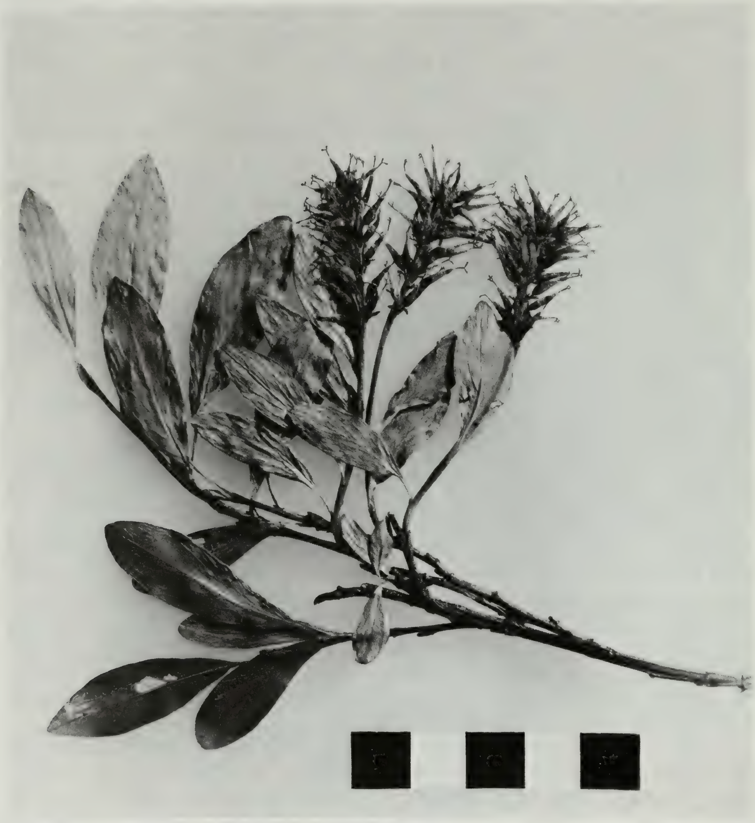
---

15. *SALIX SPHENOPHYLLA* Skvortsov

S. sphenophylla A. Skvortsov, *in* Tolmatchev, Fl. Arct. URSS 5: 62. 1966.

S. cuneata Turcz. *in* Ledeb. Fl. Ross. 3: 623. 1850, non Nutt. 1842.

S. sphenophylla ssp. *pseudotorulosa* A. Skvortsov, *in* Tolmatchev, Fl. Arct. URSS 5: 63. 1966.



Salix sphenophylla Skvortsov, *Argus 5912*

Table 5 Comparison table: *Salix arctica, S. glauca* and *S. brachycarpa*

Characteristics	*arctica*	*glauca*	*brachycarpa*
chromosome number	2*n* 76, 114	2*n* 76, 95, 114	2*n* 38
habit	dwarf shrubs up to 3-5 dm tall, prostrate or trailing	erect shrubs 0.3-0.9 (4.5) m tall	erect shrubs 0.3-0.9 (2) m tall, sometimes prostrate
style length	0.6-2.2 mm	0.5-1 mm	0.2-0.5 or 0.5-0.8 (1.5) mm
style colour	red in life	greenish in life	greenish in life
leaf pubescence	lower side pubescent with long, straight trichomes or glabrescent, a "beard" remaining at apex	lower surface villous to villous-sericeous or glabrescent with short trichomes	lower surface densely matted greyish white trichomes to glabrescent or sparsely lanate or villous-lanate
bract colour	usually black, sometimes brownish to light brown	light brown to tawny	light brown to dark brown or blackish
bract pubescence	long, straight trichomes, 2-3 times length of bract	short, wavy trichomes	short, wavy or straight trichomes
bract shape	broadly oblong, apex rounded to obtuse, rarely acute	ovate to narrowly elliptic, apex acute to obtuse	elliptic to broadly or narrowly so, apex acute to obtuse

Table 6 Comparison table: *Salix sphenophylla, S. arctica* and *S. ovalifolia*

Characteristics	*sphenophylla*	*arctica*	*ovalifolia*
branches	trailing and rooting	trailing and rooting or erect	trailing but not rooting
leaf base	mostly cuneate to acute	cuneate to rounded	round to subcordate or acute
leaf surface	dull above	usually glossy above	glossy above
petiole length	4-14 (15) mm	(3) 9-15-35 mm	2-4-7 mm
pistillate floriferous branchlet length	2.5-4.5 (5) cm	3-8 (12) cm	0.5-1.5-2.5 cm
pistillate ament length	2-4.5 (6) cm	4-8-12 cm	0.9-1.5-2.8 cm
pistil pubescence	glabrous or sparsely pubescent on beak	densely white pubescent	mostly glabrous and glaucous
style length	0.6-1.8 mm	0.6-2.2 mm	0.2-0.8 mm

Description of species

Dwarf shrubs, branches brownish, trailing and rooting, glaucous; branchlets more or less ascending, greenish brown, glabrous, bud scale often persistent at base. Leaves elliptic to narrowly or broadly so, the largest mature leaves 1.9-4.8 (6) cm long, 1-2 cm wide and 1.9-3 times as long as wide; apex acute to obtuse or rounded; base cuneate to acute (rarely rounded); margins entire, sometimes ciliate; the upper side of mature leaves light green, glabrous and dull, the lower side glabrous or sparsely pubescent with long, caducous trichomes, glaucous, venation prominent; petioles 4-14 (15) mm long, stipules minute lobes to 0.8 or sometimes 5.5 mm long. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments (unknown in Alaska and the Yukon, description based on Siberian specimens) ca. 2.7-3 cm long, floriferous branchlets ca. 2.2-2.3 cm long, stamens 2, filaments ca. 4.5 mm long, glabrous, distinct; anthers (0.4) 0.5-0.6 mm long. Pistillate aments 2-4.5 (6) cm long, floriferous branchlets 2.5-4.5 (5) cm long, similar to vegetative shoots; pistils ca. 4 mm long, greenish, suffused with red, glabrous or sparsely pubescent on the beak, capsules ca. 5-6 mm long, glabrous or sparsely pubescent; styles 0.6-1.8 mm long, entire or partly bifurcate; stigmas 0.4-0.6 mm long, four linear lobes, stipes 0.5-1.4 mm long, glabrous or pubescent, nectaries 1, adaxial, 0.8-1.6 mm long, equal to or up to 2 times stipe; bracts narrowly elliptic, dark brown to blackish, sparsely pubescent on both sides, ca. 1.6-2 mm long.

Habitat

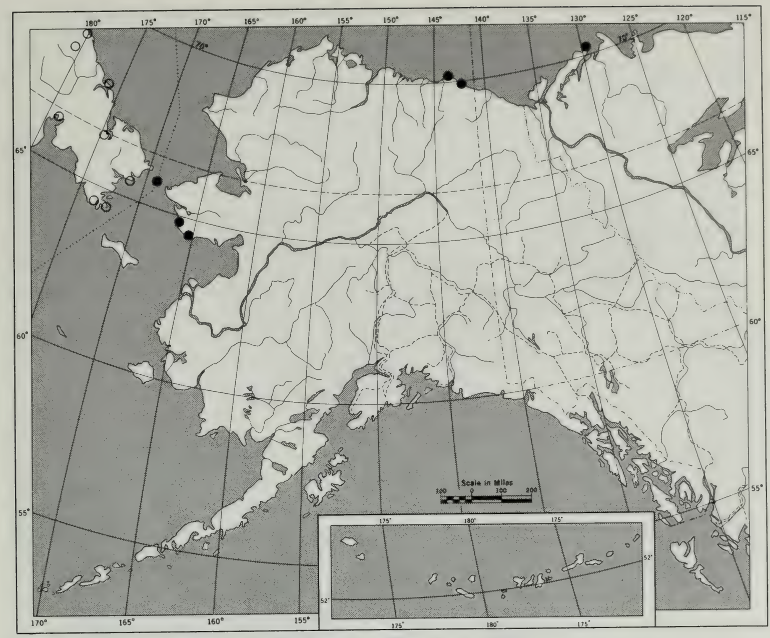
Polygonal tundra; *Carex aquatilis* fens; dry, rocky slopes covered with *Dryas*.

Range

Arctic: Little Diomede Island; Seward Peninsula; Barter Island; Nuvagapak Point; Cape Dalhousie, Northwest Territories; Asia: Lake Baikal; Lena River; eastward to Kamchatka and the Chukotsk Peninsula (Map 21).

Discussion

Salix sphenophylla seems to be related to *S. ovalifolia* and *S. arctica.* Skvortsov (1966) claims that it is not too closely related to *S. arctica* but belongs to a group of Asian species including *S. nakamurana* Koidz. and *S. kurilensis* Koidz. (*S. longipetiolata* Flod.). However, he does include it in the same section as *S. arctica* and it is similar enough morphologically so that he has described some specimens called *S. torulosa* by Hultén (1943), included as part of *S. arctica* in this treatment, as *S. sphenophylla* ssp. *pseudotorulosa.* According to Skvortsov, subspecies *pseudotorulosa* occurs in eastern Siberia and Alaska and is characterized by very sparsely pubescent pistils in contrast to the completely glabrous pistils of the species. The Alaskan specimens that I have determined as *S. sphenophylla* vary in this characteristic from specimens with completely glabrous pistils, to those with sparsely pubescent pistils (*Argus & Chunys 5912*), to one in which most pistils are glabrous but a few are very sparsely pubescent (*Argus & Chunys 5848*). In view of this almost continuous variation, I have decided not to recognize the Alaska material as the subspecies. *Salix sphenophylla* can be distinguished from *S. ovalifolia* by a large number of characteristics (Table 6), but from *S. arctica* it is distinguishable only on the basis of its glabrous or sparsely pubescent pistils, and its dull leaves. Other characteristics which Skvortsov uses in his key, such as light yellow branches, the cuneate leaf



Map 21 *Salix sphenophylla.* Circles based on Skvortsov, 1966

base, the supposed absence of stipules and the shorter styles are too variable within these taxa to be of diagnostic value. It is with some hesitation that I recognize *S. sphenophylla* in the North American flora, and a case could be made for considering it either as an extreme variant of *S. arctica* or perhaps as the hybrid *S. arctica* × *ovalifolia*. However, it is relatively distinctive and I include it here with the hope that it will stimulate further consideration of this eastern Asian species in North America.

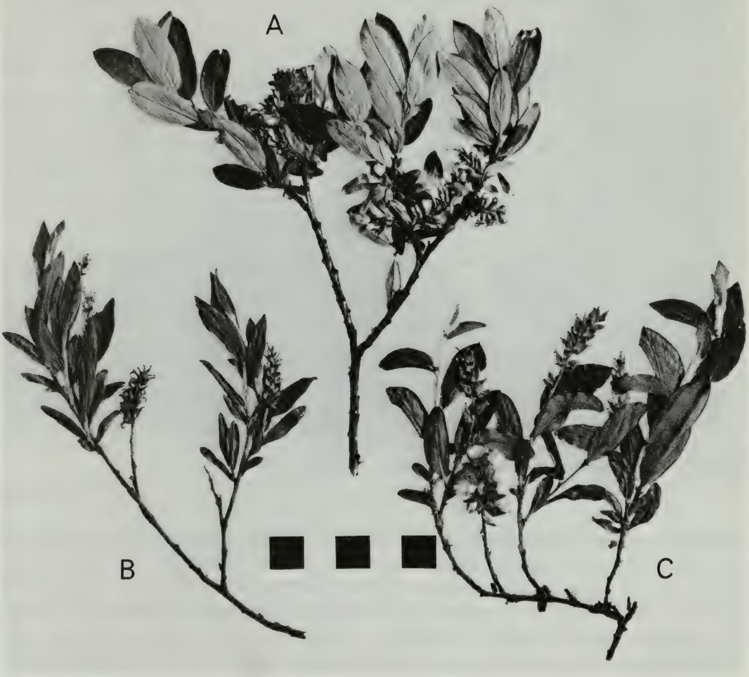
16a. *SALIX BRACHYCARPA* Nutt. ssp. *BRACHYCARPA*

S. brachycarpa Nutt. N. Am. Sylva 1: 69. 1842. (Type col.: *Nuttall s.n.* GH).

S. desertorum β (var.) *stricta* Anderss. *in* DC. Prod. 16 (2): 281. 1868. (Type: *Bourgeau s.n.* photo and frag. A). *S. stricta* Rydb. Bull. N.Y. Bot. Gard. 1: 273. 1899.

S. desertorum γ (var.) *fruticulosa* Anderss. *in* DC. Prod. 16 (2): 281. 1868.

S. brachycarpa var. *glabellicarpa* Schneid. Bot. Gaz. 66: 338. 1918. (Type: *Macoun 95374,* CAN).



Salix brachycarpa Nutt. (A) Subspecies *brachycarpa, Argus 6877*; (B, C) Subspecies *niphoclada* (Rydb.) Argus: *Argus 5276* (B), and *Argus 5276* (C)

S. brachycarpa var. *sansonii* Ball, Univ. Calif. Publ. Bot. 17: 414. 1934. (Type: *Sanson 119,* Banff Nat. Pk.).

S. brachycarpa var. *psammophila* Raup, J. Arnold Arb. 17: 230. 1936. (Type: *Raup 6888,* GH).

Description of species

Shrubs erect, commonly 0.3-0.9 m tall, some up to 2-3 m tall; branches stout, reddish brown, pubescent with persistent, greyish indumentum, sometimes glabrescent; branchlets densely white or grey villous-lanate, sometimes sparsely pubescent with coarse trichomes. Leaves obovate to broadly or narrowly elliptic to narrowly obovate, the largest mature leaves (1.2) 2.3-3 (4) cm long, 6-9-16 mm wide, (1.5) 2.8-3 (4) times as long as wide; apex acute to obtuse; base rounded; margins entire; mature leaves pubescent on both sides with densely matted greyish white trichomes, sometimes only sparsely pubescent, glaucous beneath; petioles (0.5) 1-3 (4) mm long, usually shorter than bud, often reddish; stipules less than 0.5-1.5 mm long, broad, often obscured by the dense branchlet pubescence. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments about 6-15 mm long, short-cylindrical to globose; floriferous branchlets rarely more than 10 mm long; stamens 2; filaments distinct or sometimes united at base, glabrous; anthers about 0.4-0.5 mm long; nectaries 2, abaxial and adaxial. Pistillate aments 15-20 mm long, short-cylindrical to nearly globose; floriferous branchlets 3-20 mm long; pistils densely white lanate, short-beaked, capsules less pubescent, light brown; styles 0.5-0.8 (1.5) mm long; stigmas 2, 0.2-0.3 mm long, each two-lobed; stipes usually absent or up to 0.25-0.5 mm long, pubescent; nectaries 1, adaxial, often 0.5 times as long as pistil; bracts elliptic to broadly so, light brown, often greenish early in development, pubescent on both sides with straight or curly trichomes.

Habitat

Alpine slopes; unstable limestone scree; *Betula glandulosa-Carex-Salix* fens; margins of alkaline or marly ponds and fens; unstable gravel margins of streams and lakes.

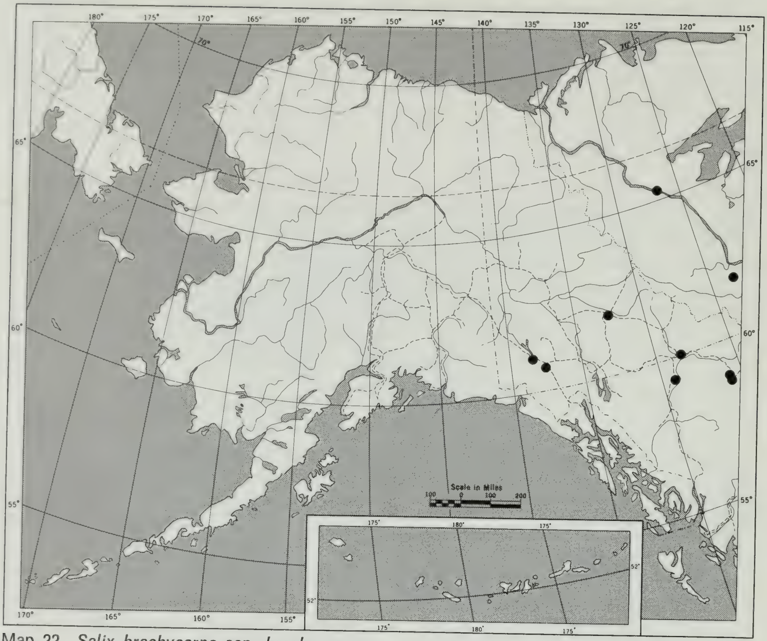
Range

Montane, boreal: Southeastern Yukon; adjacent British Columbia and Northwest Territories; southward in the cordillera to Utah and Colorado; eastward in Subarctic Canada to Hudson Bay, James Bay, Ungava, and the Gaspé Peninsula; across southern Alberta and Saskatchewan (Map 22).

16b. *SALIX BRACHYCARPA* ssp. *NIPHOCLADA* (Rydb.) Argus

S. brachycarpa ssp. *niphoclada* Argus, Contr. Gray Herb. 196: 119. 1965.

S. niphoclada Rydb. Bull. N.Y. Bot. Gard. 1: 272. 1899. (Type: *Taylor*



Map 22 *Salix brachycarpa* ssp. *brachycarpa*

60, CAN). *S. glauca* ssp. *niphoclada* Wiggins, *in* Wiggins and Thomas, Fl. Alaskan Arct. Slope 144. 1962.

?*S. lingulata* Anderss. *in* DC. Prodr. 16 (2): 281. 1868. (Type col.: *Kastalsky s.n.* NY).

S. brachycarpa ssp. *mexiae* Ball, Univ. Calif. Publ. Bot. 17: 412. 1934. (Type: *Mexia 2131*, A). *S. niphoclada* var. *mexiae* Hult. Ark. Bot. II, 7: 41. 1967.

S. muriei Hult. Fl. Alaska and Yukon 3: 531. 1943. (Type: *Murie s.n.* A). *S. niphoclada* var. *muriei* Raup, Contr. Gray Herb. 185: 60. 1959.

Description of subspecies

Differs from ssp. *brachycarpa* in low shrubs, erect to prostrate, often spreading, 0.3-1 (2) m tall; branches thin and flexible, reddish brown, greyish or yellowish brown, sometimes with persistent pubescence. The largest mature leaves (2.1) 2.5-3.2 (4.5) cm long, 7-11-15 mm wide and (2.1) 2.9-3.7 (5.5) times as long as wide; apex acute-attenuate; base cuneate to rounded; margins entire or distantly glandular; immature leaves sericeous with appressed trichomes, the upper side of mature leaves sparsely pubescent to glabrescent, the lower side sparsely lanate or villous-lanate, glaucous, the margin sometimes ciliate; petioles reddish to yellowish; stipules 2 mm or less up to 4 mm long, sometimes prominent, narrowly ovate, glandular on margin, pubescent. Staminate aments 1.6-3.7 cm long, narrowly cylindrical; anthers about 0.3-0.5 mm long. Pistillate aments 2.3.5-5 cm long; slender, loosely flowered, capsules sparsely pubescent, light brown sometimes greenish; styles 0.2-0.5 mm long, entire or bifurcate; nectaries 0.5-1.5-2 mm long, sometimes with lobes laterally as well as adaxially, often longer than pistil; bracts elliptic to narrowly elliptic or oval, apex rounded or emarginate, 1.5-2.8 mm long, tawny, greenish tawny or sometimes dark brown to blackish, pubescent on both sides with short trichomes or glabrescent abaxially.

Habitat

Arctic: tundra; *Salix* thickets on stream margins and in sandy blowouts. Montane: dry alpine slopes; unstable limestone talus; glacial outwash; subalpine shrubby tundra. Boreal: early successional stages on alluvial deposits and on margins of semi-saline prairies.

Range

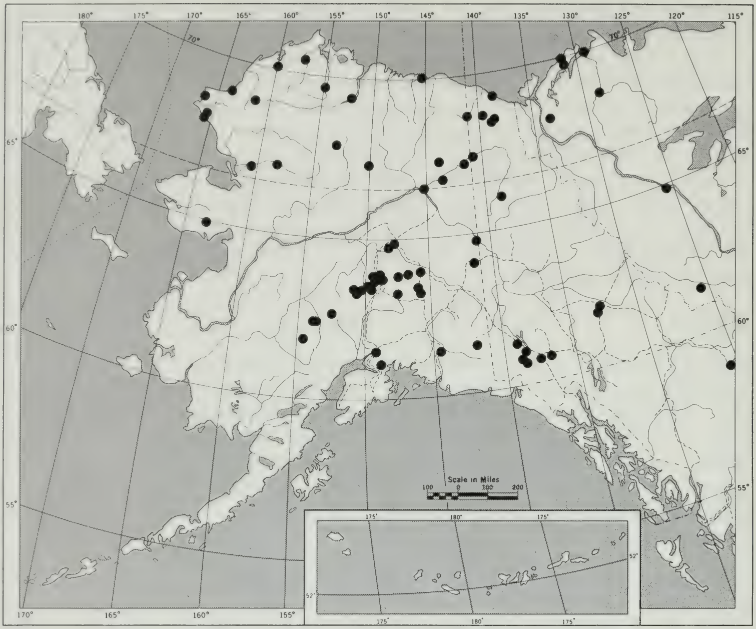
Arctic, montane, boreal: Central Alaska; Alaska Range; arctic Alaska; Alaska Peninsula; throughout Yukon Territory to adjacent British Columbia; Northwest Territories to Hudson Bay (Map 23).

Discussion

Salix brachycarpa is characterized by a low shrubby habit, very short petioles, 0.5-1-3 (4) mm long, subglobose (ssp. *brachycarpa*) or narrowly cylindrical (ssp. *niphoclada*) aments, densely white lanate, almost sessile, pistils, the stipes 0-0.5 mm long, and small anthers, 0.3-0.5 mm long.

This species is closely related to *S. glauca* and *S. arctica* from which it may be distinguished by the characteristics in Tables 4 and 6. It is also related to the Eurasian *S. reptans* Rupr. and may eventually prove to be conspecific with it. I have seen specimens of the latter species from eastern Siberia (Gyda River and Yakutskaya) which have the short, subglobose aments of typical ssp. *brachycarpa* and others with the slender aments of ssp. *niphoclada.* However, there is wide variation within the specimens that I have seen and I am unable at the present time to formulate a clear concept of *S. reptans.* It is possible that the broad-leaved specimen that I have named ssp. *niphoclada,* such as: *Johnson, et al. 215* (Argus 1965*a*, Figs. 54 and 55), *673 & 215A,* from Ogotoruk Creek; *Harbo 42,* from Cold Bay; *Schofield 2274,* from Naknek; and *Scott 2023,* from the Wrangell Mountains, may be referred to that species. For discussion of the broad-leaved variant of ssp. *niphoclada,* see Argus 1965*a.*

In 1965 I discussed the historical development of the concepts of the relationships of *niphoclada* and presented reasons for combining it with *S. brachycarpa* rather than with *S. glauca* as has been proposed by Hultén (1943), Raup (1959) and Wiggins (Wiggins and Thomas 1962). I pointed out that *niphoclada* differed from *S. glauca* in a number of important characteristics including stipe length, style length, petiole length, anther length,



Map 23 *Salix brachycarpa* ssp. *niphoclada*

the shape of the proximal leaves on vegetative shoots and probably also in chromosome number (based on stomata size). Chromosome counts from Cape Thompson, Alaska, indicate that ssp. *niphoclada* is diploid ($2n =$ ca. 38, Johnson and Packer 1968), supporting the indirect stomatal length data (Argus 1965*a*). It was also noted that it was very similar to *S. brachycarpa* in all of these characteristics and that the two taxa seem to intergrade in southern Yukon and northern British Columbia. Since that time I have been able to collect additional specimens along the Alaska Highway in northern British Columbia and I am convinced that there is a continuous intergradation between these taxa in that area. Ssp. *brachycarpa* differs from ssp. *niphoclada* in ament shape, longer styles (Table 7) and in its coarsely pubescent leaves.

The apparent intergradation that seems to exist between *S. glauca* and *S. brachycarpa* ssp. *niphoclada* may be due to hybridization, which was suspected to be relatively common in arctic Alaska and in the Alaska Range (Map 1) as discussed by Argus (1965*a*), and to environmental modification, which may produce robust forms of ssp. *niphoclada* resembling *S. glauca*. Hybridization between these taxa needs to be verified.

Table 7 Comparison table: *Salix brachycarpa* ssp. *brachycarpa*, ssp. *niphoclada* and *S. glauca*

Characteristics	*brachycarpa* ssp. *brachycarpa*	*brachycarpa* ssp. *niphoclada*	*glauca*
chromosome number	$2n=38$	$2n=38$	$2n=(76, 95), 114$
petiole length	(0.5) 1-3 (4) mm	1-3-4 mm	2.5-5-15 mm
stipe length	absent (0.25-0.5) mm	(absent) 0.25-0.5 mm	0.25-1-2 mm
anther length	ca. 0.4-0.5 mm	0.3-0.5 mm	0.5-0.8 mm
proximal leaves on vegetative shoots	strap-shaped, apex rounded to obtuse	strap-shaped, apex rounded to obtuse	obovate to oblong, apex acute to obtuse
ament shape	short-cylindrical to subglobose, densely flowered	narrowly cylindrical, loosely flowered	cylindrical, densely flowered
style length	0.5-0.8 (1.5) mm	0.2-0.5 mm	0.5-1 mm

17. *SALIX GLAUCA* L.*

S. glauca L. Sp. Pl. 1019. 1753.

S. desertorum Richards. Bot. App. *in* Frankl. J. 753. 1823. *S. glauca* (ssp.) *S. desertorum* Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 127. 1858. *S. glauca* ssp. *desertorum* Hult. Fl. Alaska and Yukon 3: 527. 1943.

S. villosa Hook. Fl. Bor.-Am. 2: 144. 1838. *S. glauca* var. *villosa* Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 127. 1858. *S.* × *glaucops* α (var.) *villosa* Anderss. *in* DC. Prodr. 16(2): 281. 1868.

S. villosa β (var.) *acutifolia* Hook. Fl. Bor.-Am. 2: 144. 1838. *S. glauca* var. *acutifolia* Schneid. Bot. Gaz. 66: 327. 1918. *S. glauca* ssp. *acutifolia* Hult. Ark. Bot. II. 7: 40. 1967.

S. × *glaucops* β (var). *glabrescens* Anderss. *in* DC. Prodr. 16 (2): 281. 1868. *S. glauca* var. *glabrescens* Schneid. Bot. Gaz. 66: 329. 1918. *S. glauca* ssp. *glabrescens* Hult. Ark. Bot. II. 7: 40. 1967.

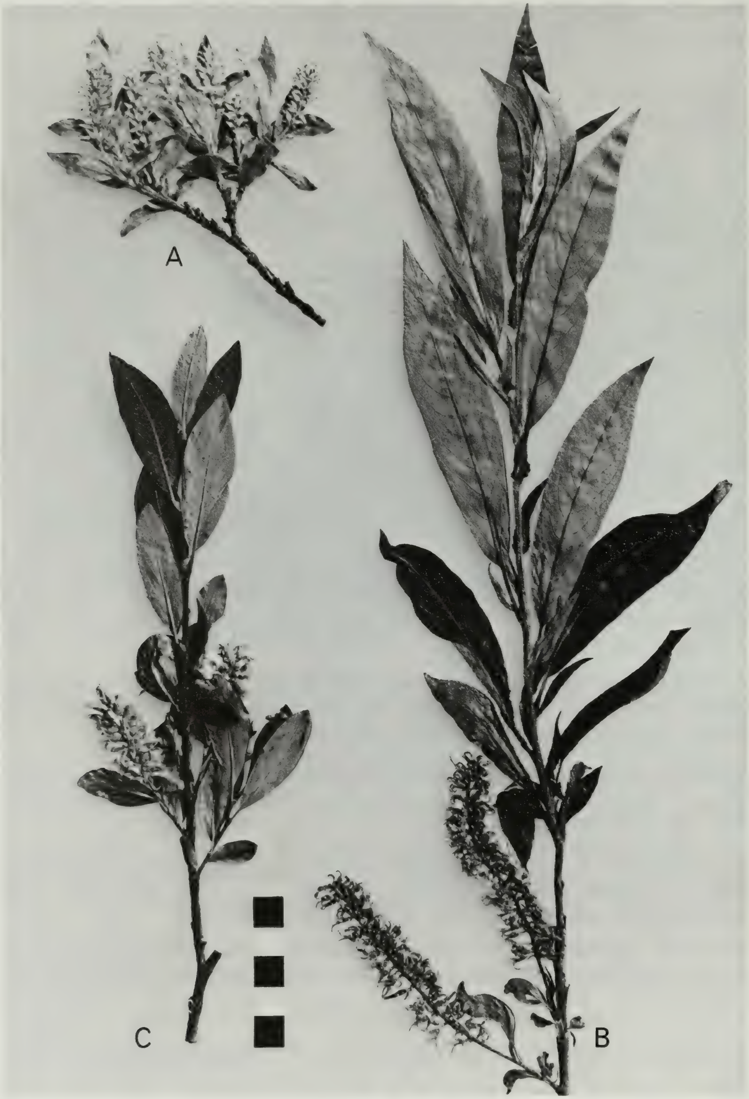
S. glauca var. *acutifolia* f. *poliophylla* Schneid. Bot. Gaz. 67: 61. 1919. *S. glauca* var. *poliophylla* Raup, J. Arnold Arb. 17: 233. 1936 (as *poliophila*).

S. glauca var. *alicea* Ball, Univ. Calif. Publ. Bot. 17: 416. 1934.

S. glauca ssp. *desertorum* var. *sericea* Hult. Fl. Alaska and Yukon 3: 527. 1943.

S. glauca var. *perstipula* Raup, Sargentia 6: 154. 1947.

**See* Argus 1965*a* for typification and further synonymy.



Salix glauca L. (A) Beringia phase (var. *glauca*), *Argus 6959*, (B) Western phase (var. *acutifolia*), *Rouse 52*, (C) Rocky Mountain phase (var. *villosa*), *Argus 5276*

Description of species

Erect shrubs 0.3-0.9 (4.5) m tall, sometimes prostrate; branches reddish brown to greyish, epidermis often exfoliating, glabrate or variously pubescent, sometimes glaucous; branchlets pubescent to white villous, sometimes glaucous. Leaves obovate, narrowly obovate or elliptic, the largest mature leaves 2.4-6-10 cm long, 0.7-1.8-3.2 cm wide, 2-3-5.2 times as long as wide; apex acute, acuminate or obtuse; base acute to acuminate or obtuse; margins entire often glandular on lower portion of blade, sometimes revolute; the upper side of mature leaves dark green, glossy, glabrescent or sometimes villous, the lower side villous with short appressed trichomes to villous-lanate or glabrescent; petioles 2.5-5-15 mm long, yellowish, pubescent or glabrate; stipules narrowly ovate, apex attenuate to acute, minute to 1-7-17 mm long, margins glandular. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 1.6-2.5 cm long, floriferous branchlets 0.5-1.5 cm long, persistent after aments fall; stamens 2; filaments distinct or united at base, glabrous or pubescent near base; anthers 0.5-0.6-0.8 mm long, reddish in preanthesis, becoming brown; nectaries 2, abaxial and adaxial. Pistillate aments 2.2-4-7 cm long, cylindrical, floriferous branchlets 1-3.5 cm long; pistils densely white lanate, capsules sparsely pubescent to glabrescent, light brown, long-beaked; styles 0.5-1 mm long, entire or bifurcate; stigmas with 4 linear lobes sometimes as long as style; stipes 0.25-1-2 mm long, pubescent; nectaries 1, adaxial 0.6-1.2 mm long, 0.4-2 times as long as stipe; bracts ovate to narrowly elliptic, light brown to tawny, pubescent both sides with short wavy trichomes, sometimes glabrate abaxially.

Salix glauca s.l. ranges in Eurasia from arctic Scandinavia to the Chukotsk and Kamchatka Peninsulas, U.S.S.R.

Beringia Phase (var. *glauca*)

Habitat

Arctic tundra; commonly forming thickets on the edges of creeks and rivers, on sandy and gravel floodplains, and on old beaches.

Range

Arctic, alpine: Western Alaska Peninsula; Kodiak Island; Lake Iliamna; east Cook Inlet; northward to the Kuskokwin River; along the Bering Sea Coast to the Seward Peninsula; eastward along the Arctic Coast and the Brooks Range (Map 24).

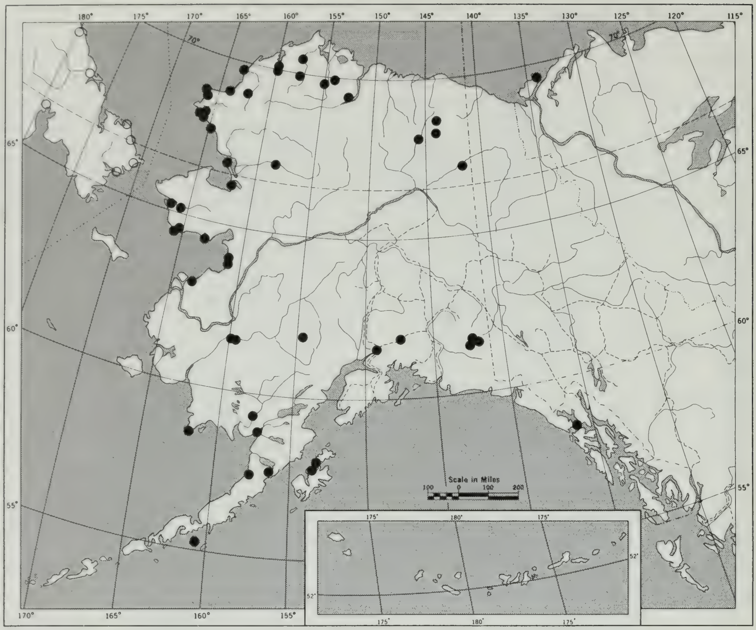
Western Phase (var. *acutifolia*)

Habitat

Common in *Picea mariana* muskegs, along drainage channels in *P. glauca* woods, and on river floodplains; subarctic *Salix-Betula glandulosa* thickets; alpine tundra.

Range

Boreal, montane: Central Alaska; Alaska Range; Yukon Territory; eastward to Great Bear and Great Slave Lakes; southward into northern British Columbia (Map 25).



Map 24 *Salix glauca*, Beringia phase (var. *glauca*). Circles based on Skvortsov, 1966, as *S. glauca*

Rocky Mountain Phase (var. *villosa*)

Habitat

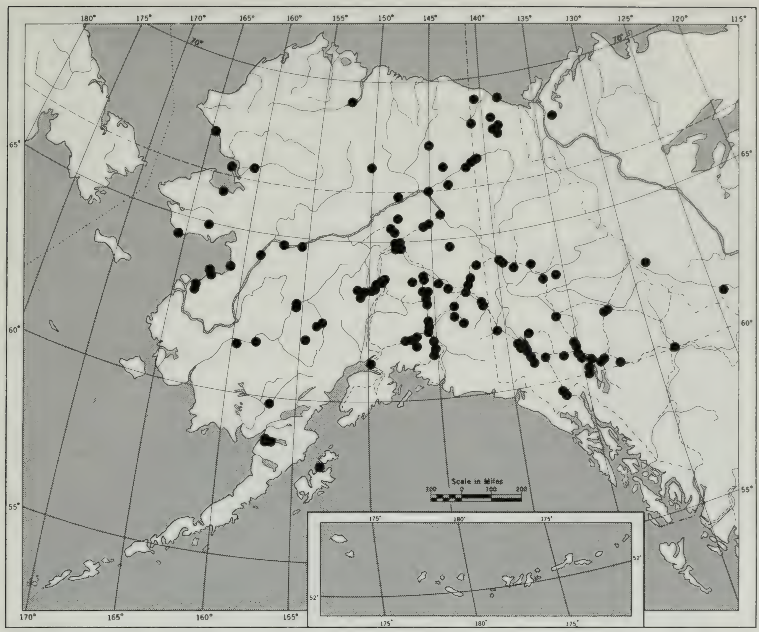
Along rivers and creeks; openings in spruce woods; thickets on subalpine slopes.

Range

Montane, Boreal: Rocky Mountains from northern British Columbia and adjacent Yukon Territory to Utah and New Mexico; eastward to Hudson Bay (Map 26).

Discussion

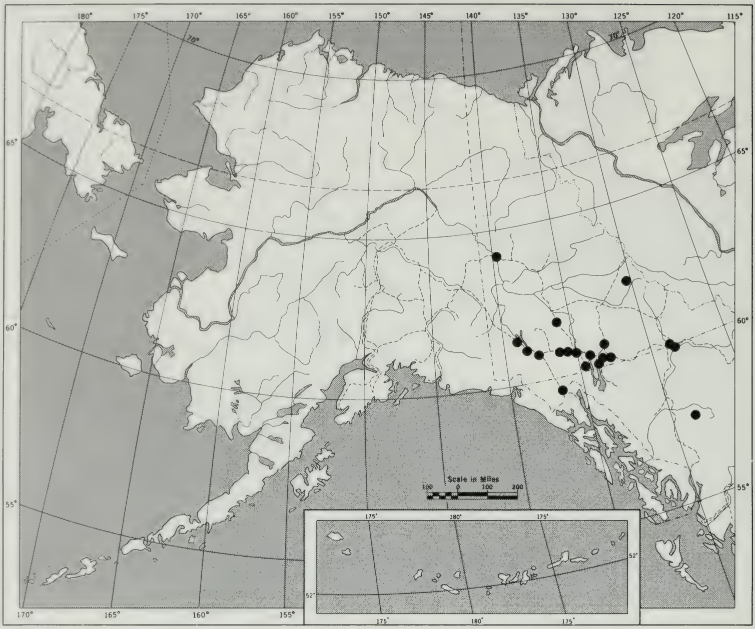
Salix glauca is a highly variable circumpolar taxon which, although subject to repeated study (Schneider 1918*b*; Hultén 1943; Raup 1959; and Argus 1965*a*), is not completely understood. In 1965 I published a study of this complex in which I concluded that it was advisable to treat the species in a broad sense and to recognize four geographical variants in North America. The decision to refer to these geographical variants by informal phase names was based on three considerations. First, the taxonomic concept of the geographical variants was based more on geography than on clearly defined morphological differences; secondly, extensive intergradation oc-



Map 25 *Salix glauca*, Western phase (var. *acutifolia*)

curred in the areas of overlap of the ranges of the variants; and thirdly, specimens which morphologically resemble each of the variants occurred within the range of the other variants. The geographical variation of each of the phases was described and problems which required special study were noted. Since that time I have been involved in additional study; chromosome numbers have been determined for the species in Alberta and Alaska (Suda and Argus 1968, 1969) and a study of *S. athabascensis* in Saskatchewan and the Yukon has resulted in its separation from *S. glauca* but in its retention within the *S. glauca*-complex (see *S. athabascensis* for discussion). However, this information has not yet substantially aided in the solution of the problems of classification, and the variation within the species and its relationships remain obscure.

Skvortsov (1966) has independently arrived at a similar conclusion concerning this species in arctic U.S.S.R. He notes that there is some geographical correlation of characteristics in populations in Altai, Sayan, and Khanga which usually bear small leaves with sparse pubescence, lack stipules, and have short aments and floriferous branchlets. Whereas, in parts of the Lena, Indigira and Kolyma Rivers the leaves are larger, more strongly pubescent and have well developed stipules and longer aments. However, he does not attempt to recognize these variants nomenclaturally. Within the cir-



Map 26 *Salix glauca*, Rocky Mountain phase (var. *villosa*)

cumpolar extent of the species he suggests that there are four "races", one in eastern North America and Greenland, a second in Eurasia and western North America (west of Hudson Bay), a third beginning to be differentiated in southern Siberia and a fourth in the Alps. He ascribes formal nomenclatural recognition only to the latter which he recognizes as the species *S. glaucosericea* Floderus.

In Alaska and the Yukon I recognize three geographical phases: the Beringia phase, which is very similar to the Scandinavian *S. glauca* and may be named *S. glauca* L. var. *glauca*; the Western phase, which may be named *S. glauca* var. *acutifolia* (Anderss.) Schneider; and the Rocky Mountain phase, which may be named *S. glauca* var. *villosa* (Hook.) Andersson. For those who may wish to recognize the geographical variants as informal units or as formal taxa I have provided a key to the phases and maps depicting their approximate distribution. The synonyms listed here include only important names used in reference to the flora of Alaska and the Yukon; for a more complete synonymy see Argus 1965*a*.

Key to the major variants of *Salix glauca* in Alaska and the Yukon.

1a. Shrubs (0.3) 0.9-1.2 (3) m tall; leaves 2.4.4 (5) cm long, elliptic to obovate, 1.6-3 times as long as wide; stipules minute to 2-6 mm long, generally inconspicuous; pistillate aments 2-4 cm long. Rocky Mountain phase (var. *villosa*).

1b. Shrubs prostrate to 4.5 m tall; leaves 4-10 cm long, obovate to narrowly obovate, 2.8-4 times as long as wide; stipules 4-10 (17) mm long, prominent; pistillate aments 3.5-7 cm long.

  2a. Shrubs 0.9-2.1 up to 4.5 m tall; leaves dark green and glabrescent above, villous-lanate or sometimes glabrescent beneath; petioles 3-7-16 mm long; stipules very prominent; branchlets villous to pubescent; pistillate aments stout, long-cylindrical; bracts light brown to tawny. Western phase (var. *acutifolia*).

  2b. Shrubs prostrate to 0.3-0.9 m tall; leaves light green above, pubescent on both sides, becoming glabrescent above, never villous-lanate beneath; petioles 2-5-10 mm long; stipules variable; branchlets densely villous, internodes usually short; pistillate aments shorter, narrowly cylindrical; bracts often dark brown. Beringia phase (var. *glauca*).

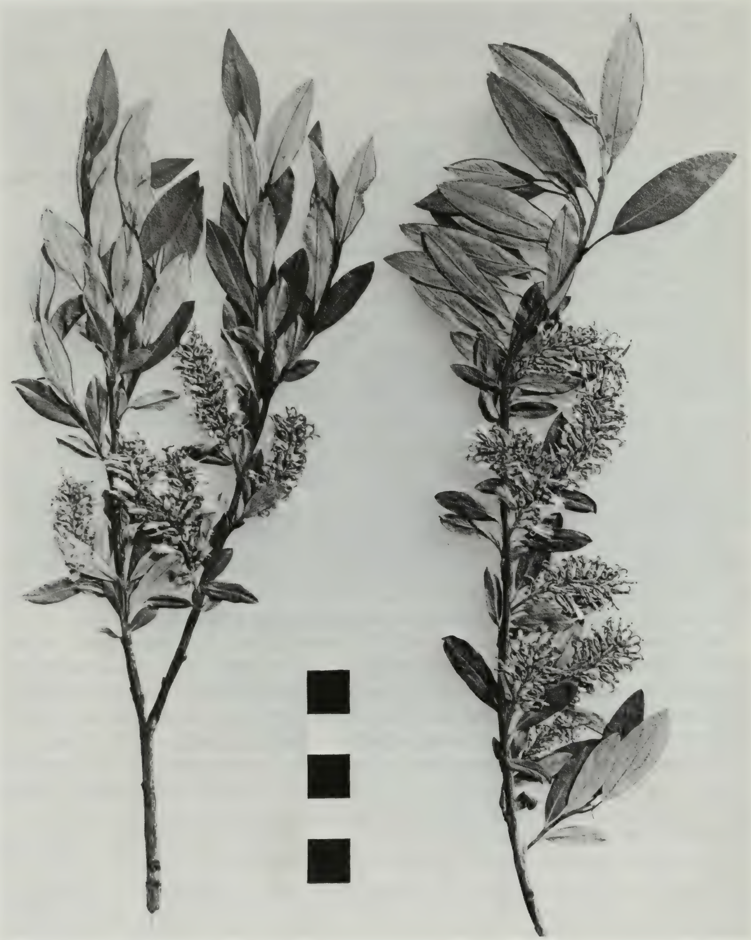
Salix glauca is characterized by pubescent branchlets and leaves, the usual occurrence of prominent, narrowly elliptic stipules, densely white lanate pistils borne on distinct stipes, and bracts usually tawny but sometimes brownish. It is related to *S. athabascensis*, *S. brachycarpa* and *S. arctica* (see those species for comments and Tables 5 and 7). It is also related to the Eurasian *S. reptans*, and to the European *S. glaucosericea* Flod., *S. pyrenaica* Gouan, and *S. stipulifera* Flod. ex Hayren.

The Beringia phase (var. *glauca*) is characterized by densely villous branchlets with short internodes, leaves villous to pubescent on both sides, short petioles and stipules usually exceeding the petioles, densely lanate pistils on short stipes and bracts tending to be brownish rather than tawny.

The Western phase (var. *acutifolia*) is characterized by large leaves often with a distinctive villous-lanate pubescence beneath and glabrescent to sparsely pubescent above, long petioles and prominent narrowly elliptic stipules. The aments are large and the pistils are borne on prominent stipes. There are some glabrescent forms which are included within this phase.

The Rocky Mountain phase (var. *villosa*) is characterized by a tendency toward more glabrescent leaves, less prominent stipules and smaller leaves and aments. It intergrades with the Western phase in southern Yukon and northern British Columbia and individuals are often very difficult to assign to one phase or the other on morphological grounds.

There are seven authentic chromosome counts for the North American *Salix glauca* (Suda and Argus 1968, 1969; Johnson and Packer 1968). Three of the counts based on specimens from Alberta representing the Rocky Mountain phase are hexaploid ($2n = 114$); three counts based on specimens from Umiat, Alaska, representing the Western phase, include tetraploid, pentaploid and hexaploid levels ($2n = 76$, 95 and 114); and one count representing the Beringia phase from Ogotoruk Creek, Alaska, is tetraploid. This evidence suggests that the North American *S. glauca* is basically hexaploid in contrast to the octoploid levels reported for European specimens (Holmberg 1931; Wilkinson 1944; Löve and Löve 1948). This evidence may eventually provide a basis for segregating the North American and European members into two major taxa; but in view of the intrapopulation



Salix athabascensis Raup. Population sample *Argus 5054* variation in chromosome number for the Western phase and the tetraploid count for the Beringia phase, many more counts are needed before this apparent difference can be evaluated.

Within Alaska and the Yukon *Salix glauca* is suspected to hybridize with *S. arctica* and with *S. brachycarpa* ssp. *niphoclada*. In arctic Alaska the latter cross is reportedly common (Argus 1965*a*), but this conclusion was based on a subjective analysis of morphological intermediacy and character recombination, and therefore requires corroboration from other kinds of data. It could be speculated that the three ploidal levels reported for the Umiat material are the result of hybridization and backcrossing with *S. brachycarpa* ssp. *niphoclada*. If the basic number of *S. glauca* is $2n = 114$ then hybridization with ssp. *niphoclada*, which is thought to be diploid ($2n = 38$), could yield F_1 tetraploids and backcross pentaploids. However, the tetraploid and pentaploid specimens (*Suda 271-66, 274-66* and *277-66,* SASK) show no morphological signs of hybridization and do not support such a hypothesis.

---

18. *SALIX ATHABASCENSIS* Raup

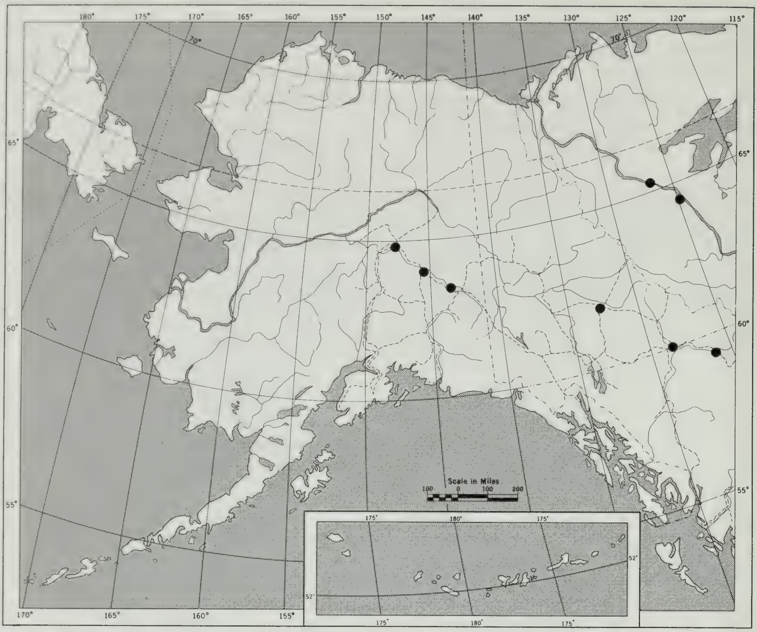
S. athabascensis Raup, Rhodora 32: 111. 1930. (Type: *Raup 8129,* CAN).

S. pedicellaris Pursh var. *athabascensis* Boivin, Phytologia 15: 411. 1967.
S. glauca L. (ferruginous form) Argus, Contr. Gray Herb. 196: 85. 1965.

S. fallax Raup, Contr. Arnold Arb. 6: 149. 1934. (Type: *Raup 4312,* A).

Description of species

Shrubs 0.6-0.9-1.3 m tall; branches grey brown, epidermis exfoliating; branchlets reddish brown, glossy, densely or sparsely pubescent with short trichomes curved toward the stem, becoming glabrescent. Leaves narrowly elliptic to elliptic or narrowly obovate, the largest mature leaves 1.7-3.7-5 cm long, 0.8-1.3-1.8 cm wide, 2-3.2 times as long as wide; apex acute or more or less acuminate; base round or acute, often inequilateral; margins entire, often glandular on lower portion of blade or indistinctly and distantly glandular serrulate, flat or slightly revolute; the upper side of immature leaves usually villous or sericeous with mixed white and ferruginous trichomes, often rugulose; the upper side of mature leaves glabrescent, ferruginous tichomes sometimes persistent on midrib, glossy and reticulate, the lower side glabrescent but with some appressed white and ferruginous trichomes persistent for some time, glaucous; petioles 3-5-10 mm long, tawny or reddish, villous or puberulent adaxially; stipules glandular lobes, minute to 0.2-0.5 mm long. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 5-9 mm long, floriferous branchlets 2-3 mm long, persistent after aments fall; stamens 2, filaments distinct, pubescent on lower half; anthers 0.4-0.6 mm long, nectaries 2, abaxial and adaxial. Pistillate aments 1.2-3.7 cm long, loosely flowered, especially in fruit, floriferous



Map 27 *Salix athabascensis*

branchlets 0.2-1.5 cm long; pistils 1.8-2 mm long, greenish or tawny, densely sericeous with white or sometimes with white and ferruginous trichomes, capsules 5.6-7.2 mm long, tawny, reddish or greenish, sparsely sericeous to glabrescent; styles 0.5-1 mm long, partly bifid; stigmas 0.2-0.5 mm long, 4 linear lobes; stipes 0.8-1.2 mm long, pubescent; nectaries 1, adaxial, sometimes 2-lobed, 0.4-0.8 mm long, usually 0.5 times as long as stipe; bracts ovate, apex rounded, 1-1.6 mm long, tawny, sometimes bicolour and brown at apex, pubescent on both sides or glabrescent abaxially.

Habitat

Carex-Salix-Betula glandulosa fens; *Picea mariana* muskegs and bogs.

Range

Boreal: Central Alaska along the Tanana River; southern Yukon and adjacent British Columbia; Northwest Territories to Hudson Bay (Map 27).

Discussion

Salix athabascensis is characterized by glabrescent, narrowly elliptic leaves usually sparsely pubescent with appressed white and ferruginous trichomes, loosely flowered aments, grey sericeous pistils sometimes with ferruginous

Table 8 Comparison table: *Salix athabascensis* and *S. pedicellaris*

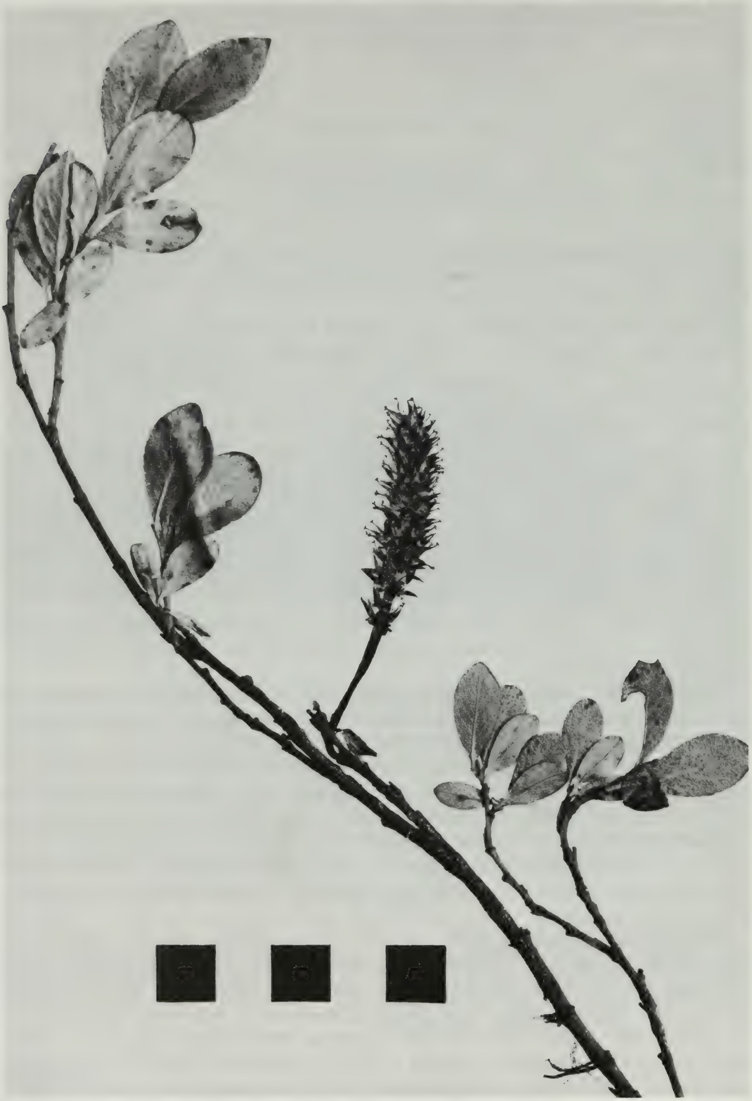
Characteristics	*athabascensis*	*pedicellaris*
pistils	pubscent	glabrous
style length	0.5-1 mm	0.1-0.2 mm
branchlet pubescence	short, curved trichomes	very minute, straight trichomes
leaves	sparsely sericeous with white and furruginous trichomes	glabrous

and white trichomes, long stipes (0.8-1.2 mm long) and short nectaries. It is morphologically similar to *S. pedicellaris* from which it may be distinguished by the characteristics in Table 8.

In 1965 I incorrectly treated this species as a "form" of *S. glauca* (Argus 1965*a*) and attributed some sterile intermediates to hybridization between *S. glauca* (or *S. planifolia* or *S. discolor*) and *S. pedicellaris*. My 1965 opinion concerning the relationship of *S. athabascensis* and *S. glauca* was based on experience at Churchill, Manitoba. In this area *S. glauca* occurs in the tundra on the outcrop ridge and in streamside *Salix* thickets, whereas *S. athabascensis* occupies river floodplains, *Picea mariana* muskegs and forests, and also occurs occasionally in the tundra and in *Salix* thickets. The distinction between these taxa in central Canada is very tenuous and is based on the sparser leaf, branchlet and pistil pubescence of *S. athabascensis* and the characteristic occurrence of ferruginous trichomes on its leaves and sometimes on its pistils. Since that time new information has been obtained leading to reconsideration of this taxon. I am now of the opinion that it is best treated as a species related to *S. glauca* and hybridizing with *S. pedicellaris*.

Hybridization between *S. athabascensis* and *S. pedicellaris* is suspected to be relatively common in central Canada, and hybrid swarms have been studied in Saskatchewan and southern Yukon (Map 2). Apparent F_1's, which are usually infertile and have a high percentage of aborted and unfilled pollen grains, may be distinguished by their sparsely pubescent pistils (often with patches or streaks of pubescence), undeveloped ovaries, short styles, sparsely pubescent branchlets and subcoriaceous leaves. A preliminary comparative chromatographic analysis of leaf pigments (Argus, unpublished) supports a hypothesis of hybridization between these species, and further study is in progress.

Chromosome counts indicate that *S. athabascensis* and *S. pedicellaris* are both tetraploid, $2n = 76$ (Suda and Argus 1969; Löve and Ritchie 1966) and that hybrids between these taxa, although sterile, are also tetraploid (Suda and Argus 1968). The three chromosome numbers reported for *S. glauca* from Churchill, Manitoba (Argus 1965*a*) were based on specimens of *S. athabascensis* growing on the floodplain of the Churchill River, and should be referred to that species. The three specimens counted exhibited three ploidal levels, $2n =$ ca. 76 (*Argus 15S*); $2n = 95$ (*Argus 517-58*) and $2n =$ ca. 114 (*Argus 26S*). The tetraploid level is now thought to represent the general ploidal level for this species; the pentaploid and hexaploid



Salix chamissonis Anderss. *Suvorova s.n.*, 12 VIII 1962, Leninogorsk, Eastern Altai, U.S.S.R., GWA levels may be the product of hybridization and backcrossing with the hexaploid *S. glauca,* or of autoploidy within *S. athabascensis.*

Section 8. Myrtosalix Kern.

19. *SALIX CHAMISSONIS* Anderss.

S. chamissonis Anderss. *in* DC. Prod. 16 (2): 290. 1868.

S. rectijulis Ledeb. ex Trautv. Nouv. Mem. Soc. Nat. Mosc. 2: 313. 1832. p.m.p. (quoad pl. ex. Ins. Sti. Laurentii).

Description of species

Prostrate, usually trailing shrubs; branches long, trailing on ground, aments and some vegetative branchlets arising at right angles to branch, reddish brown; branchlets yellow green, glabrous or sparsely pubescent with curly trichomes, becoming glabrescent. Leaves obovate to elliptic-obovate, the largest mature leaves 3-5 cm long, 1.7-3 cm wide and (1.1) 1.6-1.9 (2.1) times as long as wide; apex obtuse to round or retuse, rarely acute, sometimes conduplicate when pressed; base cuneate; margins prominently and uniformly glandular serrulate; the upper side of mature leaves glabrous and semi-glossy, sometimes drying black, the lower side glabrous or with caducous trichomes, thinly glaucous; petioles 5-13 mm long; stipules narrowly elliptic, 2.8-9 mm long, glandular serrulate. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 2.2-3.2 cm long, floriferous branchlets 1.3-2.2 cm long; stamens 2, filaments about 7 mm long, glabrous; anthers 0.5-0.6 mm long, reddish; nectaries 1, adaxial, about 0.8 mm long. Pistillate aments 3-6 cm long, rachis sparsely pubescent, branchlets 1.5-4 cm long; pistils 2.4-4.8 mm long, greenish red with reddish sutures, pubescent all over, rarely glabrous, pubescent in strips or in patches at the base and apex, indumentum of flat, crinkled, refractive trichomes, capsules 5-7 mm long, bronze or greenish bronze with red sutures, generally glabrescent but beak remaining sparsely pubescent; styles 0.8-1.2 mm long, reddish, drying dark purple, sometimes bifid; stigmas about 0.4 mm long; stipes 0.2-0.4 mm long, pubescent; nectaries 1, adaxial, 0.3-0.6 mm long, dark red, equal to or slightly exceeding stipe; bracts ovate, apex obtuse to rounded, 1.2-2.8 mm long, black to dark brown, pubescent on both sides, trichomes 2 times length of bract.

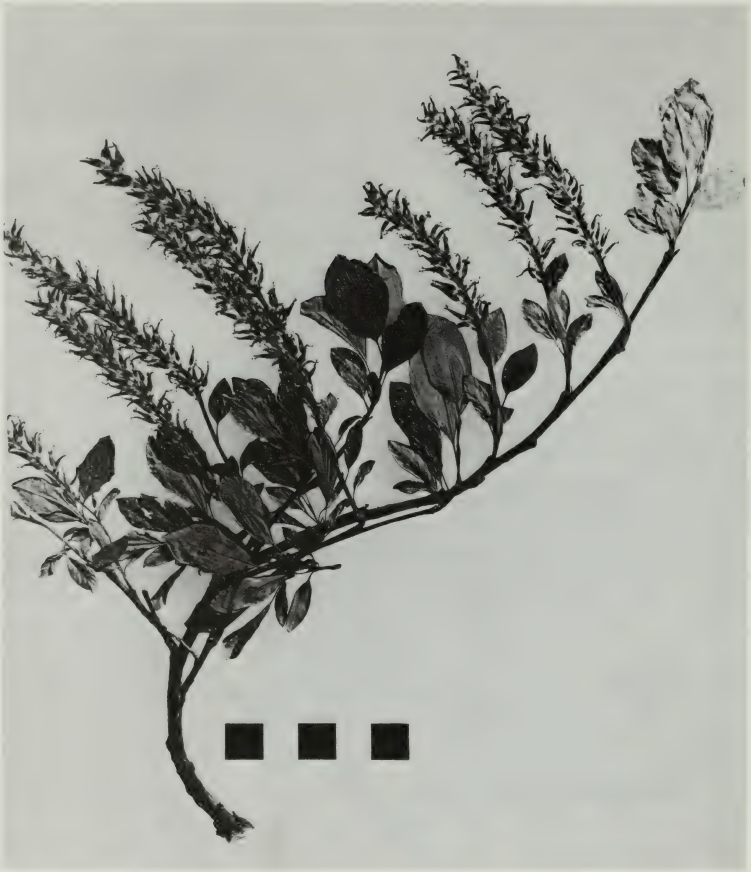
Habitat

Tundra.

Range

Arctic, alpine: Attu Island; St. Lawrence Island; Seward Peninsula; Arctic slope; Brooks Range; southward to Wiseman and Twelvemile Summit; eastward to Richardson Mountains, northern Yukon, and adjacent North-

Plate XVIII



Salix arctophila Cock. ex Heller. *Argus 142-58* west Territories; Asia: eastern Siberia along the northern shores of the Sea of Okhotsk; Kamchatka Peninsula; Commanders Islands; Chukotsk Peninsula (Map 28).

Discussion

Salix chamissonis is wide ranging but infrequent in arctic and alpine tundra. It forms relatively large disjunct populations on Twelvemile Summit and Eagle Summit and is only known to occur elsewhere in central Alaska in the Kokrines Range.

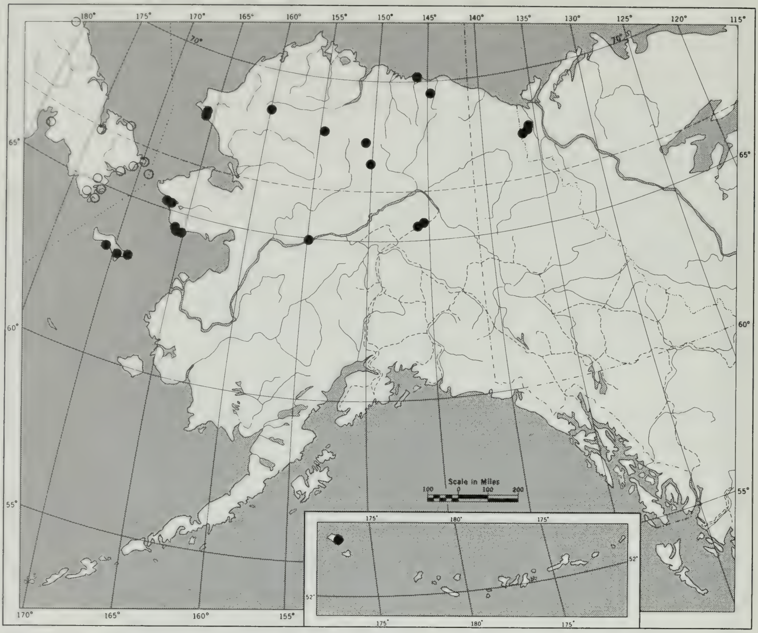
This species is closely related to the European *S. myrsinites* L., the Eurasian *S. saxatilis* Turcz. (*S. fumosa* Turcz.) and the eastern American *S. arctophila* Cock. All four species have the characteristic pistil pubescence consisting of crinkled, refractive trichomes and more or less glandular serrulate leaf margins. *S. chamissonis* differs from *S. myrsinites* in having obovate leaves that are glaucous beneath, and shorter petioles. It differs from *S. arctophila* in its prominently and uniformly glandular serrulate leaf and stipule margins.

20. *SALIX ARCTOPHILA* Cock. ex Heller

S. arctophila Cock. ex Heller, Cat. N. Amer. Pl. (ed. 3) 89. 1910.

Description of species

Dwarf shrubs, decumbent and often trailing; branches long, slender and chestnut brown or greenish brown; branchlets long, slender, usually yellow green and glabrous, rarely slightly glaucous. Leaves broadly elliptic or obovate, sometimes narrowly elliptic, the largest mature leaves 1.7-3.7 cm long, 0.7-1.6 cm wide, 1.3-1.8 (4.3) times as long as wide; apex obtuse, round or sometimes acute; base obtuse, acute or cuneate; margins entire with minute glands or minutely glandular serrulate, rarely eglandular; immature leaves glabrous or very sparsely pubescent beneath; the upper side of mature leaves glabrous, glossy and yellow green, the lower side glabrous, plane and glaucous; petioles 3-13 mm long, yellow green; stipules absent or 0.4-4 mm long, glabrous, margins glandular. Aments coetaneous, on erect, leafy, floriferous branchlets. Staminate aments about 2-5 cm long, floriferous branchlets 0.8-2 cm long; stamens 2, filaments 6-7 mm long, glabrous and purplish; anthers 0.5-0.6 mm long. Pistillate aments 2.1-6 cm long, floriferous branchlets erect, 1.5-5.3 cm long; pistils 3-4 mm long, sparsely and uniformly pubescent with short, flat, crinkled, refractive trichomes, reddish purple, capsules 5-6 mm long, glossy; styles 0.6-1 mm long, usually entire but sometimes bifid, red in life, drying purple; stigmas 0.2-0.4 mm long, each bifid; stipes 0.8-1.2 mm long, pubescent; nectaries 1, adaxial, 0.5-0.9 mm long,



Map 28 *Salix chamissonis.* Circles based on Skvortsov, 1966

0.5-0.66 times as long as stipe; bracts broadly oblong, apex rounded, 0.8-1.6 mm long, distinct, usually purplish red or black, pubescent with long straight trichomes.

Habitat

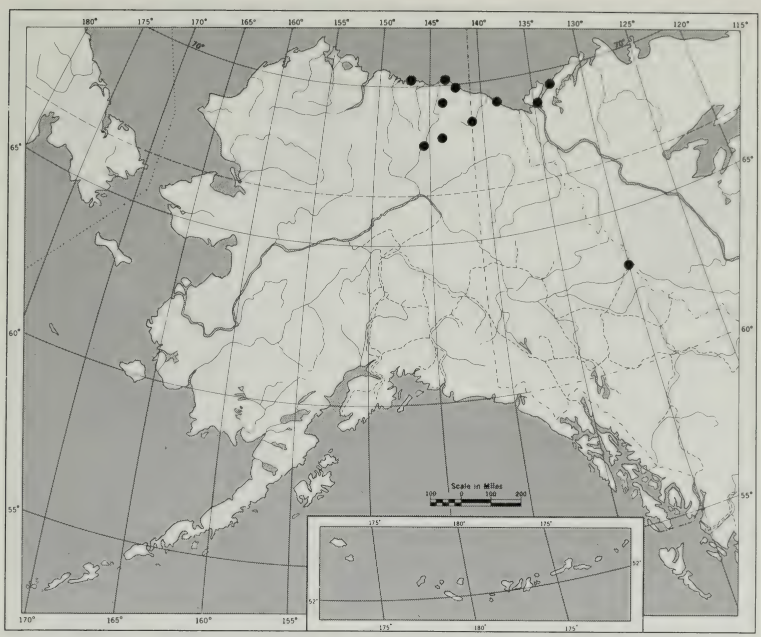
Wet tundra.

Range

Arctic: Arctic Ocean Coast from Bullen, Alaska, to the Mackenzie River Delta; eastern Brooks Range; Yukon Territory; Canadian Arctic; Greenland; northern Saskatchewan; Churchill, Manitoba (Map 29).

Discussion

Salix arctophila is an eastern Canadian Arctic species which has been infrequently collected in Alaska and the Yukon. It enters eastern Alaska and extends westward to Bullen on the Arctic Coast and to Jago Lake in the Brooks Range. The citation by Hultén (1943) of a specimen from Nome (*Jones 9042*) is incorrect and was based on a misidentification. Most North American authors (Raup 1959; Argus 1966) have related this species to *S. arctica*, and Drury (1962) implied that they are conspecific. However, Skvort-

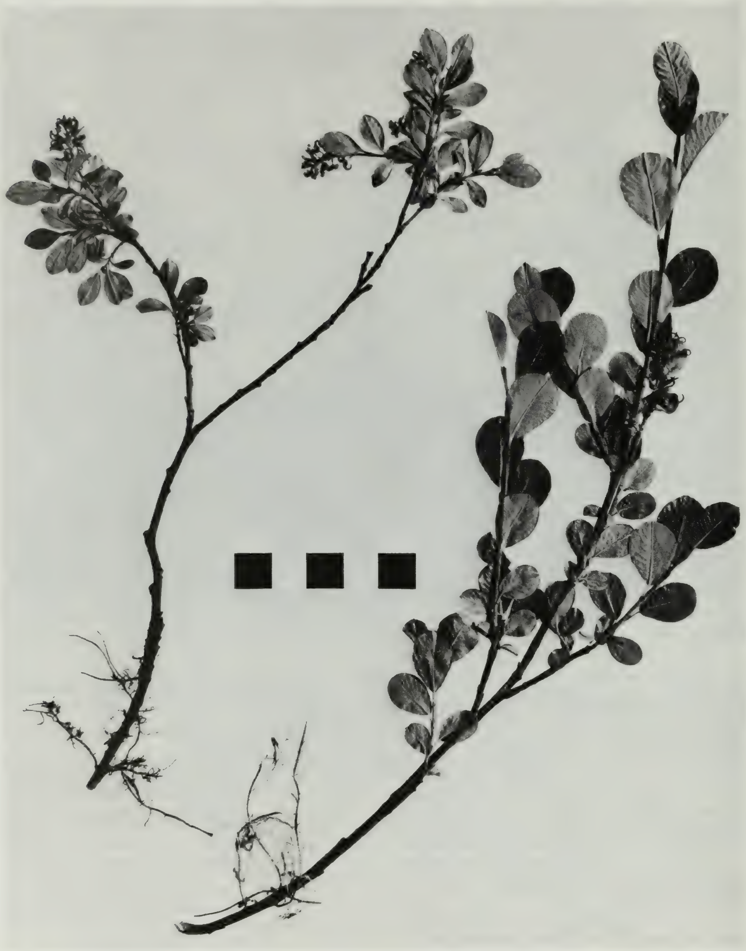


Map 29 *Salix arctophila*

Table 9 Comparison table: *Salix arctophila* and *S. arctica*

Characteristics	*arctophila*	*arctica*
branchlets	slender, trailing, yellow green and glabrous	usually stout and not conspicuously trailing, brownish, sparsely pubescent
leaf margins	glandular serrulate on the lower half	entire or glandular dotted on the lower quarter
leaf pubescence	glabrous	pubescent, at least beneath, with long, straight trichomes
pistil trichomes	flat, crinkled and refractive	cylindrical, straight or curly, non-refractive
nectary length	0.5-0.66 times stipe	1.5-4 times stipe

sov's view (1966) that its relationship is with *S. chamissonis* and *S. myrsinites*, not with *S. arctica*, is the most tenable and *S. arctophila* could conceivably be treated as a geographical race of *S. chamissonis*. *Salix arctophila* is morphologically similar to *S. arctica*, and vegetative specimens are particularly difficult to distinguish (Table 9).



Salix fuscescens Anderss. *Argus 5871* (left) and *Welsh 8178* (right)

Section 9. Myrtilloides Koehne

21. *SALIX FUSCESCENS* Anderss.

S. fuscescens Anderss. Kg. Sv. Vet. Akad. Handl. 6: 97. 1867.

S. arbutifolia auct. non Pall. 1788.

S. fuscescens var. *reducta* Ball, Proc. Nat. Acad. Sci. 21: 183. 1935. (Type: *Coville & Kearney 20879,* US).

Description of species

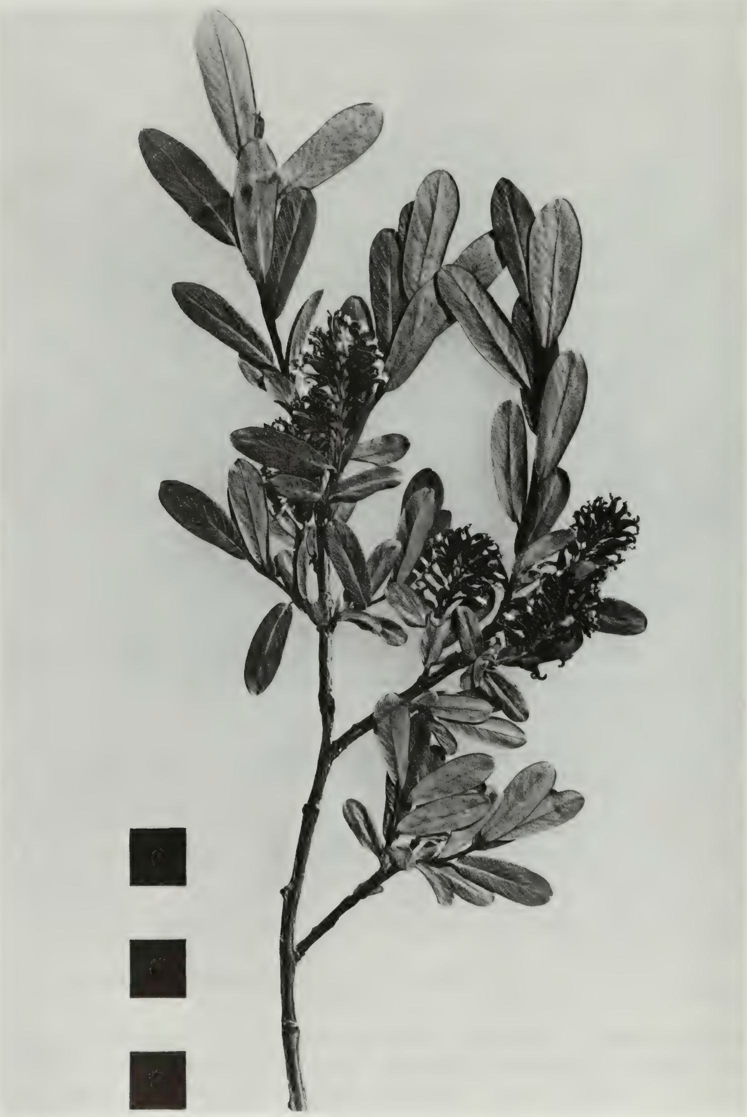
Low, trailing shrubs spreading from a central caudex; branches yellow brown and rooting, aments arising at right angles; branchlets reddish brown, greenish brown or yellowish brown early in season, glabrous. Leaves obovate to elliptic, the largest mature leaves (1.4) 1.7-2.7 (3.7) cm long, 0.7-2.1 cm wide and (1.4) 1.5-2.3 (2.5) times as long as wide; apex round or obtuse, rarely retuse; base obtuse to round, acute or rarely cuneate; margins entire, glandular crenate or glandular serrulate on lower half, occasionally glandular crenate all around, usually revolute; immature leaves glabrous, the proximal leaves rarely sparsely pubescent with caducous, ferruginous trichomes; the upper side of mature leaves glabrous, glossy and bright green, the veins raised and prominent or sometimes pale green, the lower side glabrous, glaucous or pale green; petioles 2-5.6 (6.4) mm long, pale reddish yellow, stipules absent or minute. Aments coetaneous, on long, leafy, floriferous branchlets. Staminate aments 0.8-1.3 cm long, rachis pubescent, floriferous branchlets 0.3-2.2 cm long; stamens 2, filaments 3.5-4 mm long, glabrous; anthers 0.3-0.4 mm long; nectaries 1, adaxial, 0.6-0.7 mm long, yellowish. Pistillate aments 1.5-6 cm long, sparsely flowered at proximal end, floriferous branchlets 1.0-4.5 cm long; pistils 4.4-5 mm long, long-beaked, dark reddish brown, usually sparsely pubescent with short ferruginous trichomes or densely white sericeous, rarely glabrescent, capsules 5.5-8 mm long, tawny to reddish or greenish and streaked with red, often sparsely pubescent with appressed, ferruginous trichomes, sometimes glabrescent; styles 0.1-0.4 mm long, sometimes bifid; stigmas 0.2-0.4 mm long, 4-lobed; stipes 0.8-2.5 mm long, pubescent or glabrescent; nectaries 1, adaxial, 0.4-0.6 mm long, 0.5-0.66 times as long as stipe; bracts oblong, apex rounded, 0.8-1.6 mm long, bicolour, apex dark brown and base tawny becoming uniformly brown, rarely completely tawny, pubescent on both sides with trichomes longer than bract.

Habitat

Trailing in moss in wet tundra including *Eriophorum-Arctagrostis* tussock tundra, *Eriophorum-Carex* meadows, and polygonal tundra; also occurring in dry tundra and in *Picea mariana* muskegs.

Range

Arctic, boreal: Throughout Alaska, except the Aleutian Islands and the southeastern coast of Alaska; northern half of Yukon Territory; Northwest Territories from the Mackenzie Delta; southward to northern Mani-



Salix pedicellaris Pursh. *Argus 5054C* toba; Asia: eastern Asia from the Lena River to Chukotsk Peninsula; Kamchatka; the region around Okhotsk (Skvortsov 1966, Map 22) (Map 30).

Discussion

Salix fuscescens is characterized by glabrous, obovate leaves, usually narrowed toward the base and with several glandular serrulations on the lower half, glossy above and glaucous beneath; pistillate aments loosely florewed, pistils dark reddish brown and sparsely pubescent with short ferruginous trichomes. This species is related to *S. pedicellaris* and *S. myrtilloides* from which it can be distinguished by its pubescent pistils and broader leaves.

The type of the name *S. arbutifolia* has been shown by Skvortsov (1957) to be the genus *Chosenia,* not *Salix,* and the new combination *Chosenia arbutifolia* (Pall.) Skvortsov was made. Although the type specimen is only vegetative, Skvortsov maintains that the identification of it as *Chosenia* is unequivocal and I have accepted his opinion. This, however, necessitates replacing the name *S. arbutifolia,* which has been widely used in the North American literature, with *S. fuscescens.*

22. *SALIX PEDICELLARIS* Pursh

S. pedicellaris Pursh, Fl. Am. Sept. 2: 611. 1814.

S. myrtilloides L. (ssp.) *S. pedicellaris* Anderss. Kg. Sv. Vet. Akad. Handl. 6: 96. 1867. *S. myrtilloides* β (var). *pedicellaris* Anderss. *in* DC. Prodr. 16 (2): 230. 1868.

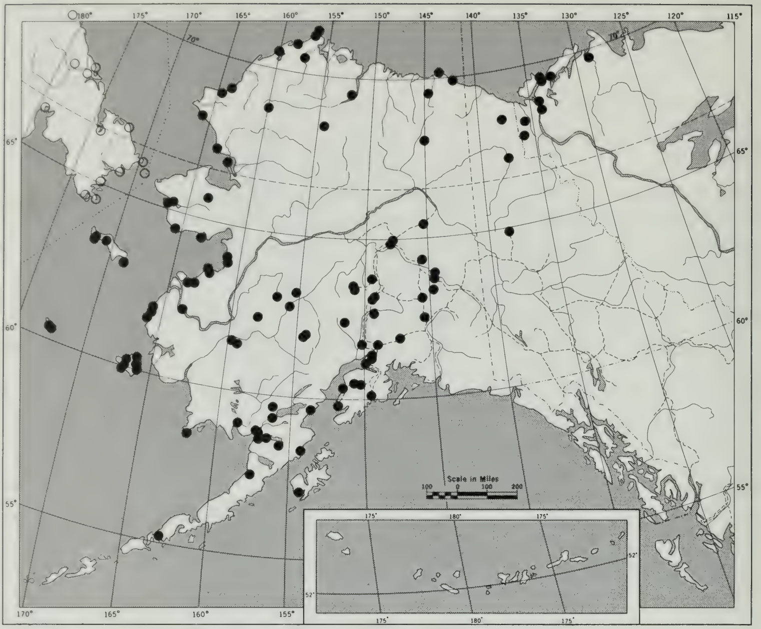
S. pedicellaris var. *hypoglauca* Fern. Rhodora 11: 161. 1909. (Type: *Forbes s.n.* GH).

S. pedicellaris var. *tenuescens* Fern. Rhodora 11: 162. 1909. (Type: *Fernald s.n.* GH).

S. hebecarpa Fern. Rhodora 26: 123. 1924. *S. fuscescens* var. *hebecarpa* Fern. Rhodora 9: 224. 1907. (Type: *Fernald & Collins 207,* GH).

Description of species

Shrubs 2-15 dm tall; branches grey brown, glabrous or glabrescent, epidermis grey and exfoliating; branchlets reddish brown or reddish yellow, minutely puberulent with short erect trichomes, sometimes glabrous; buds glabrous. Leaves coriaceous, narrowly elliptic, narrowly rectangular or narrowly obovate, the largest mature leaves 2.3-5.3 cm long, 0.7-1.3 cm wide and 2.6-4.4 times as long as wide; apex acute to round; base acute to round, sometimes inequilateral; margins entire, often glandular dotted or glandular serrulate on lower quarter of blade, sometimes revolute; immature leaves



Map 30 *Salix fuscescens.* Circles based on Skvortsov, 1966

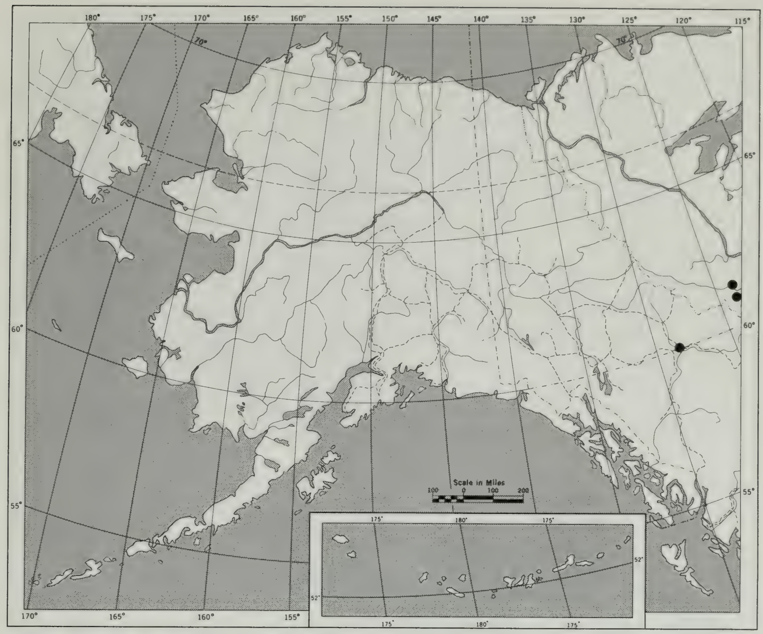
glabrous, usually green or reddish and translucent; the upper side of mature leaves glabrous, dull, usually glaucescent, and with raised, reticulate venation, the lower side glabrous and glaucous; petioles 3-4-8 mm long, reddish or reddish yellow, glabrous or sometimes puberulent adaxially; stipules are minute glands or glandular lobes about 0.1-1.5 mm long. Aments coetaneous, borne on short, leafy, floriferous branchlets. Staminate aments 0.9-1.5 cm long, floriferous branchlets 3-8 mm long; stamens 2, filaments 3.2-3.6 mm long, glabrous, distinct or connate at base; anthers 0.4-0.6 mm long. Pistillate aments 1.3-3 cm long, often as broad as long, loosely flowered, floriferous branchlets 1.5-3 cm long; pistils 2.4-4.8 mm long, reddish or tawny, glabrous and often glaucous, capsules 5.6-6.4 mm long, tawny; styles 0.1-0.2 mm long; stigmas about 0.2 mm long, 2-lobed; stipes 2.1-3.2 mm long, glabrous; nectaries 1, adaxial, 0.2-1 mm long, broad, 0.2-0.5 times as long as stipe; bracts ovate or narrowly oblong, apex rounded, 0.8-1.6 mm long, tawny, sometimes with a reddish tinge, glabrous abaxially, sparsely villous adaxially.

Habitat

Wet *Carex-Betula glandulosa-Salix* fens; muskegs.

Range

Boreal: Watson Lake, southeastern Yukon; adjacent British Columbia;



Map 31 *Salix pedicellaris*

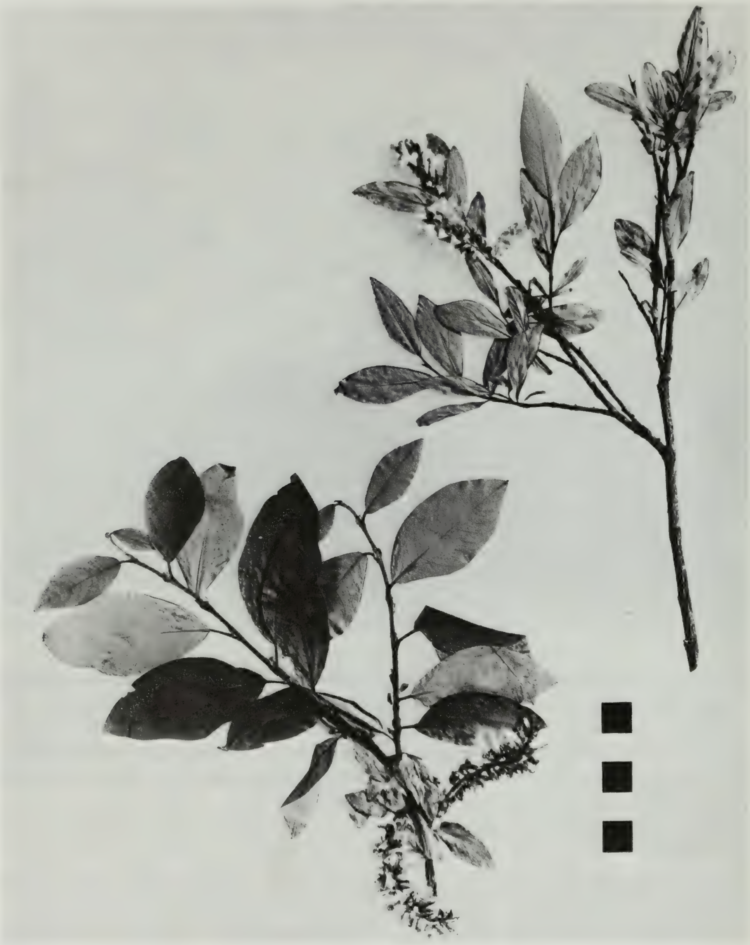
southern Northwest Territories; southward in the Rocky Mountains to Washington; eastward in the boreal forest to Newfoundland; northern U.S. from Minnesota to New England (Map 31).

Discussion

Salix pedicellaris is a characteristic low willow of wet fens with erect branches and coriaceous, glabrous leaves which are glaucous on both sides and reticulate above. The aments are loosely flowered; the pistils are usually reddish and glabrous and are borne on long stipes, 2.1-3.2 mm long. It is one of two *Salix* species known to have leaves with a waxy glaucescence on the upper leaf surface, the other being *S. purpurea* L.

In the Yukon it is known only from Watson Lake where it is locally abundant. There is no evidence that this species occurs in the Pelly River Valley as reported by Porsild (1951). The specimen (*Porsild & Breitung 9776*) on which Porsild's report was based has been re-identified as *S. athabascensis.*

This species hybridizes with *S. athabascensis,* which should be seen for discussion. A series of suspected intermediate specimens from Watson Lake



Salix hastata L. *Johnson 135* (left) and *Viereck 7869* (right)

Table 10 Comparison table: *Salix pedicellaris* and *S. myrtilloides*

Characteristics	*pedicellaris*	*myrtilloides*
habit	erect shrub, 2-15 dm tall	subterranean, creeping shrub, 0.3-0.5 dm tall
leaf shape	narrower: narrowly elliptic to narrowly rectangular or narrowly obovate	broader: subcircular to ovate or narrowly elliptic
immature leaves	glabrous	sparsely pubescent

have been determined as *S. pedicellaris* > *athabascensis.* These specimens are characterized by immature leaves which are sparsely sericeous with white and ferruginous trichomes, ovaries sometimes undeveloped but not always so, stipes pubescent and pistils with patchy pubescence. In all other respects they are "typical" *S. pedicellaris* and are assumed to be backcrosses between *S. athabascensis* × *pedicellaris* and *S. pedicellaris* (Map 2).

Salix pedicellaris is closely related to the Eurasian *S. myrtilloides* L. from which it can be distinguished by the characteristics listed in Table 10.

Section 10. Hastatae Kern.

23. *SALIX HASTATA* L.

S. hastata L. Sp. Pl. 1017. 1753.

S. farrae Ball, Contr. U.S. Nat. Herb. 22: 321. 1921. (Type: *Farr 558,* US). *S. hastata* var. *farrae* Hult. Ark. Bot. II. 7: 42. 1967.

S. farrae var. *walpolei* Cov. and Ball, Bot. Gaz. 71: 435. 1921. (Type: *Walpole 1624,* US). *S. walpolei* Ball, Madroño 6: 231. 1942. *S. farrae* ssp. *walpolei* att. to Ball by Hult. Fl. Alaska and Yukon 3: 532. 1943.

S. hastata ssp. *S. psiloides* Flod. Sv. Vet. Akad. Ark. Bot. 20A: 54. 1926.

S. farrae var. *microserrulata* Ball, Univ. Calif. Publ. Bot. 17: 410. 1934.

Description of species

Shrubs 2-7 (10) dm tall in Arctic, 1-3 m tall in interior; branches brown, usually glabrescent but indumentum may persist for 2-3 years; branchlets reddish brown, commonly white villous with short curved trichomes, sometimes sparsely pubescent to glabrescent. Leaves elliptic to obovate, the largest mature leaves 2.5-4-6.8 cm long, 0.1-2-3.2 cm wide and 1.6-2.3-2.6 (3.4) times as long as wide; apex acute to more or less attenuate; base acute or round; margins entire or indistinctly and irregularly glandular serrulate, revolute; the lower side of immature leaves sparsely pubescent with white or white and ferruginous trichomes, pale; the upper side of mature leaves glabrescent and glossy, ferruginous trichomes often persistent on the midrib, the lower side glabrous or glabrescent, thinly glaucous or pale and non-glaucous; petioles 1.5-4-6 (9) mm long, reddish, pubescent adaxially; stipules 1-4 (6) mm long, ovate to elliptic, margins glandular dotted. Aments coetaneous, on short, leafy, floriferous branchlets. Staminate aments 1.3-2.5 cm long, floriferous branchlets 0.1-3 mm long with small bract-like leaves; stamens 2, filaments 3-4.4 mm long, glabrous; anthers 0.4-0.6 mm long. Pistillate aments 2.5-4-7 cm long, often loosely flowered, floriferous branchlets 5-12 mm long; pistils 2-4 mm long, green and more or less reddish on lower half, glabrous, capsules 3.2-8 mm long, greenish to tawny and remaining reddish at base; styles 0.2-0.4 mm long, occasionally bifid; stigmas small 0.2-0.3 mm long, 2-4-lobed; stipes 0.4-0.8 (1.2) mm long, sparsely pubescent, nectaries 1, adaxial, 0.3-0.6 mm long, broad at base and tapering toward apex, about 0.5 times as long as stipe; bracts narrowly oblong, apex acute, 1.2-1.8 mm long, light brown or bicolour, sparsely pubescent on both sides with long straight trichomes.

Habitat

Salix thickets along rivers and streams; sandy tundra; *Carex-Eriophorum* meadows.

Range

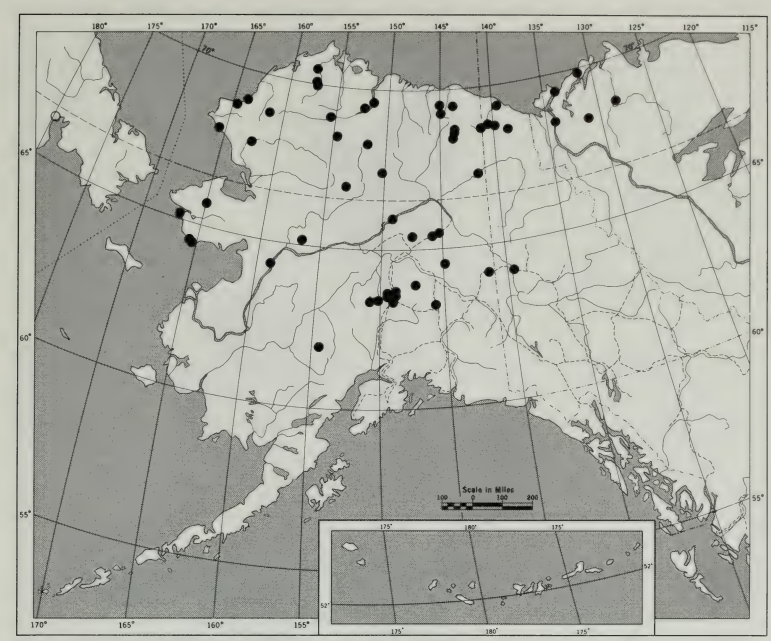
Arctic, montane: Northern Alaska; mountains of central Alaska; Alaska Range; Dawson, Yukon Territory; northwestern Northwest Territories; Eurasia (Map 32).

Discussion

Salix hastata is characterized by branches villous with short, curved trichomes; leaves with ferruginous trichomes on upper surface, especially the upper surface of the immature leaves, non-glaucous beneath becoming pale or sparsely glaucous and with more or less entire to irregularly glandular serrulate margins; and pistils reddish, especially at base, borne on very short stipes.

It is closely related to *S. barclayi*, and reports of the latter species from arctic Alaska are usually misidentifications of *S. hastata*. These species may be distinguished as in Table 11. For a comparison with *S. novae-angliae*, *S. myrtillifolia* and *S. commutata* see Table 13.

I agree with Hultén (1967) that *S. farrae* and *S. walpolei* should be included within the Eurasian *S. hastata*. *Salix hastata* is highly variable; three subspecies are recognized by Rechinger (1964) in *Flora Europea* and one variety (var. *farrae*) is recognized in North America (Hultén 1967). The North American taxon *S. hastata* var. *farrae* has a disjunct distribution in southeastern British Columbia, in Alberta, Idaho, Montana and Wyoming, and is distinguishable from the northern populations by its sparsely pubescent branchlets and leaves distinctly glaucous beneath. However, the other characteristics cited by Ball (1934) and reiterated by Hultén (1967), such as yellowish branchlets, smaller, narrower leaves, shorter aments, and so on, are of doubtful reliability. I am not convinced the variety is taxonomically useful. *Salix hastata* in North America requires critical field study.


180°
175°
170°
165°
160°
155°
150°
145°
140°
135°
130°
125°
120°
115°
70°
65°
60°
55°
Scale in Miles
100
0
100
200
52°

Map 32 *Salix hastata.* Circle based on Skvortsov, 1966

Table 11 Comparison table: *Salix hastata* and *S. barclayi*

Characteristics	*hastata*	*barclayi*
leaf glaucescence	non-glaucous or thinly glaucous beneath	glaucous beneath
leaf pubescence	ferruginous trichomes on immature leaves	no ferruginous trichomes
leaf colour	not drying dark	often drying dark
petioles	reddish	green
style length	0.2-0.4 mm	0.6-1.6 mm
pistils	reddish, at least at base	green

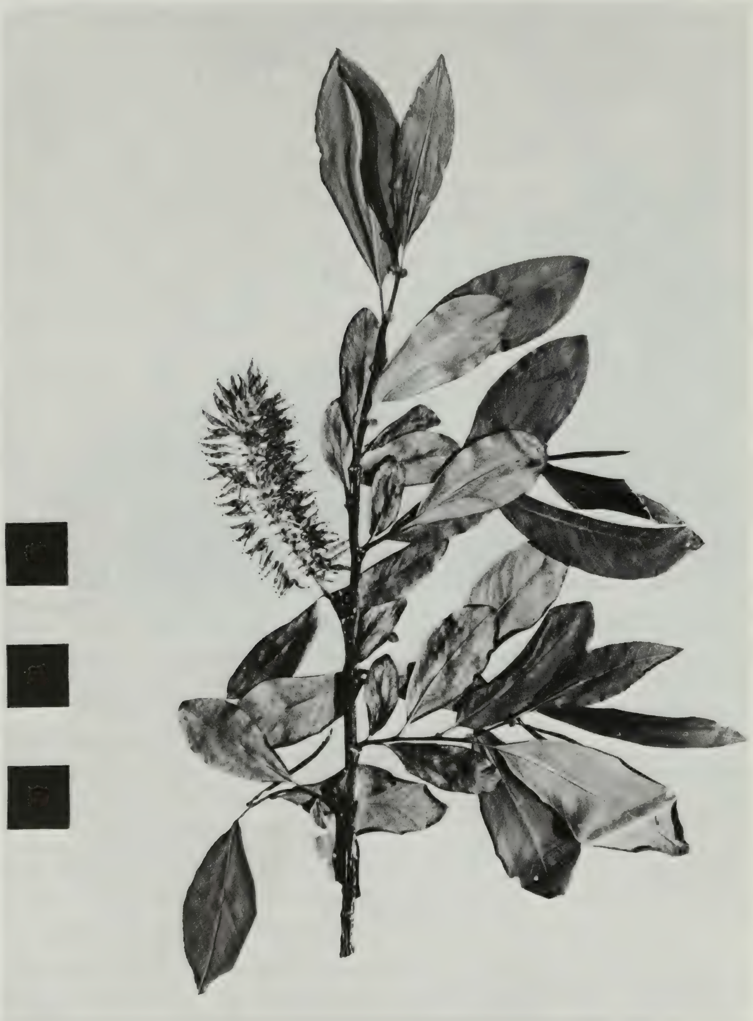
Section 11. Cordatae Barr. ex Hook.

24. *SALIX RIGIDA* Muhl.

S. rigida Muhl. *in* Muhl. and Willd. Neue Schr. Ges. Nat. Fr. Berlin 4: 236. 1803.

S. cordata (ssp.) *rigida* Anderss. Kg. Sv. Vet. Akad. Handl. 6: 158. 1867.

Plate XXII



Salix rigida Muhl. *Argus 6069*

S. cordata Muhl. *in* Muhl. and Willd. Neue Schr. Ges. Nat. Fr. Berlin 4: 236. 1803, non Michx. 1803.

S. cordata γ (var.) *mackenzieana* Hook. Fl. Bor.-Am. 2: 149. 1838. (Type: *Richardson s.n.* GH). *S. mackenzieana* Barr. ex Hook. Fl. Bor.-Am. 2: 149. 1838, pro. syn. *S. mackenzieana* Barr. ex Anderss. Kg. Sv. Vet. Akad. Handl. 6: 160. 1867. (as *mackenziana*). *S.* × *mackenzieana* Anderss. *in* DC. Prodr. 16 (2): 252. 1868. (as *S. cordata* × *rostrata*). *S. rigida* var. *mackenzieana* Cronq. *in* Hitchcock, Cronquist, Ownbey and Thompson, Vas. Pl. Pacific NW. 2: 63. 1964.

S. mackenzieana var. *macrogemma* Ball, *in* Piper and Beattie, Fl. Northwest Coast 116. 1915. *S. rigida* var. *macrogemma* Cronq. *in* Hitchcock, Cronquist, Ownbey and Thompson, Vas. Pl. Pacific NW. 65. 1964.

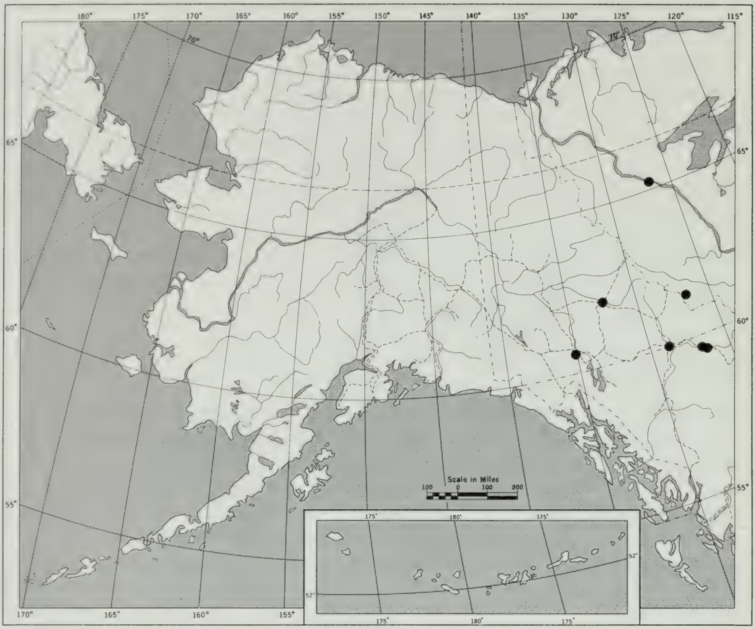
Description of species

Shrubs 0.3-3 m tall; branches reddish brown, glabrous and glossy; branchlets reddish brown to yellow green, glabrous or velutinous. Leaves narrowly oblong-obovate, 5-10.5 cm long, 1.2-2 cm wide and 3.7-5-6 times as long as wide; apex gradually to abruptly acuminate; base round to rarely subcordate; margins serrulate; immature leaves reddish, translucent, densely to sparsely pubescent; the upper side of mature leaves glabrescent, the midrib often remaining velutinous, the lower side glaucous and glabrescent; petioles 8-17 mm long, reddish, velutinous adaxially; stipules narrowly elliptic to ovate, 5-9 (20) mm long, margins serrulate; buds velutinous to glabrescent, inner bud scale separating from the outer and often clinging to base of shoot. Aments coetaneous or subprecocious, on short, floriferous branchlets. Staminate aments 1.5-2.5 cm long; floriferous branchlets 2-5 mm long; stamens 2, filaments connate at base, glabrous; anthers 0.5-0.6 mm long. Pistillate aments 3-5 cm long; floriferous branchlets 3-13 mm long; pistils slender, reddish or greenish and glabrous, capsules 4-5 mm long, tawny; styles 0.5-0.75 mm long; stigmas small; stipes 1-2 mm long, glabrous, nectaries 1, adaxial, 0.2-0.5 mm long, ca. 0.25-0.5 times as long as the stipe; bracts narrowly elliptic, apex acute and reflexed in fruit, 1-2 mm long, tawny to dark brown, sparsely villous.

Habitat	Range
Sand bars and mud flats along rivers.	Boreal: Infrequent in southern Yukon and adjacent British Columbia; southward to Washington, California, and Arizona; eastward to Newfoundland and Virginia (Map 33).

Discussion

Salix rigida is a transcontinental North American species which just barely enters southern Yukon. The northwestern North American populations are sometimes treated as the species *S. mackenzieana* (Raup 1959) or as *S.*



Map 33 *Salix rigida*

rigida var. *mackenzieana* (Cronquist 1964). The taxon *mackenzieana* is supposed to be distinguished from *S. rigida* by its longer stipes (3-4 mm long in fruiting material) and immature leaves glabrous, or nearly so. I have not found these characteristics to be consistent or useful in distinguishing between *mackenzieana* and *rigida*, and I prefer to recognize them both under the latter name until the entire complex can be studied.

Salix rigida is closely related to *S. monticola*, and although it may be distinguished by its narrower leaves and shorter styles (Table 12), there are intergradations in leaf shape in southern Yukon and the two may eventually be combined on the varietal level.

---

25. *SALIX MONTICOLA* Bebb

S. monticola Bebb *in* Coult. Man. Bot. Rocky Mt. Reg. 336. 1885. (Type: *Greene s.n.* F).

S. cordata var. *monticola* Kelso, Biol. Leafl. 34: 7. 1946.

S. padifolia Rydb. Bull. Torr. Bot. Club 28: 272. 1901. non Anderss. 1859.

Table 12 Comparison table: *Salix rigida, S. monticola* and *S. barclayi*

Characteristics	*rigida*	*monticola*	*barclayi*
immature leaves	reddish, translucent	reddish, translucent	green, opaque
leaf shape	narrowly oblong-obovate	elliptic or obovate	elliptic or obovate
leaf l/w	3.7-5-6	1.4-2-2.8	1.6-2.1-2.8
petioles	reddish	reddish	green
branchlet pubescence	glabrous or velutinous	glabrous or sparsely pubescent	densely to sparsely villous
flowering time	coetaneous or subprecocious	precocious	coetaneous
floriferous branchlet length	0.3-1.3 cm	0-0.5 cm	(0.5) 1-2 (3) cm
style length	0.5-0.75 mm	0.8-1.2 mm	0.6-1.6 mm

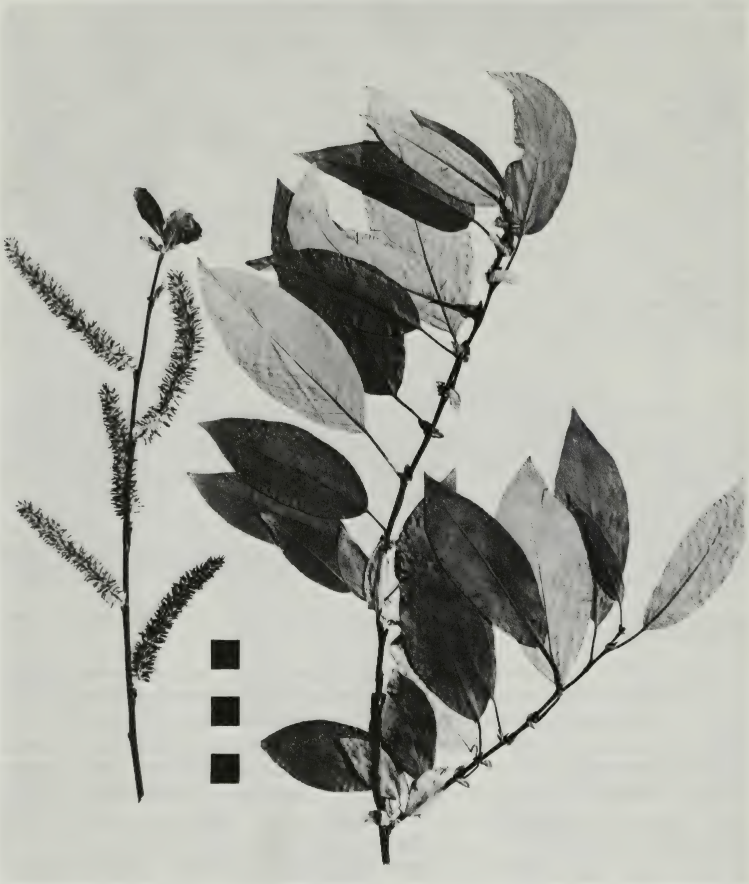
(Type: *Rydberg & Vreeland 6389,* NY). *S. padophylla* Rydb. Bull. Torr. Bot. Club 28: 499. 1901. *S. pseudomonticola* Ball var. *padophylla* Ball, J. Wash. Acad. Sci. 28: 450. 1938. *S. barclayi* var. *padophylla* Kelso, Biol. Leafl. 34: 8. 1946.

S. pseudomonticola Ball *in* Standl. Contr. U.S. Nat. Herb. 22: 321. 1921. (Lectotype: *Sanson 233,* US). *S. barclayi* var. *pseudomonticola* Kelso, Biol. Leafl. 34: 8. 1946.

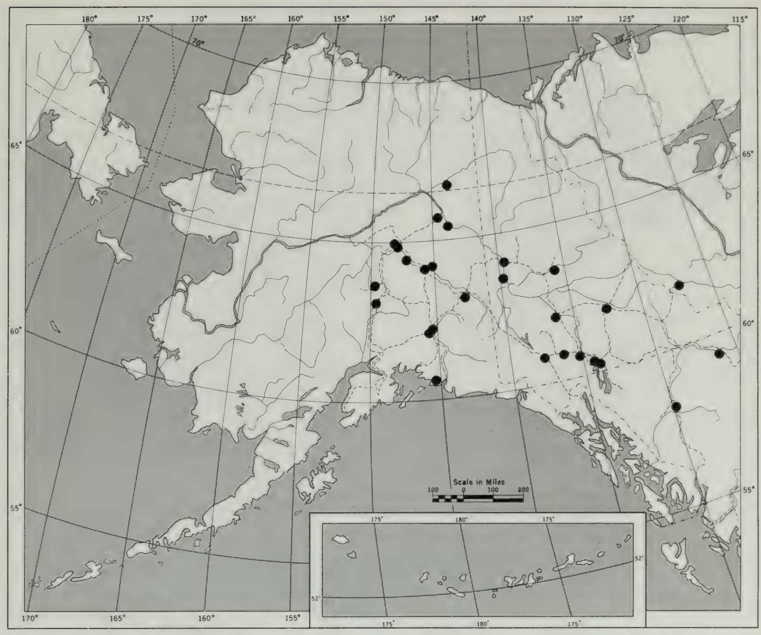
Description of species

Shrubs 1-2-4 m tall; branches dark reddish brown to yellow brown, glossy; branchlets yellow green, glabrous or sparsely pubescent to glabrescent and glossy, sometimes sparsely glaucous. Leaves narrowly elliptic, elliptic or obovate, the largest mature leaves 4.1-6.9 (8) cm long, 2.0-3.3 (4) cm wide and 1.4-2-2.8 times as long as wide; apex broad and abruptly acuminate to acute; base obtuse, round to subcordate, often inequilateral; margins glandular crenate-serrulate; immature leaves reddish, translucent and sparsely pubescent, the midrib often remaining reddish; the upper side of mature leaves green and glabrous or glabrescent, the lower side glabrescent and glaucous; petioles 6-12 (20) mm long, usually reddish, glabrous or pubescent; stipules ovate with round apex, 1-5-12 mm long, margins crenate-serrulate or often indistinctly so, glabrous on both sides and glaucous beneath. Aments precocious, usually sessile or on very short floriferous branchlets bearing several bract-like leaves. Staminate aments 2.5-3 cm long, sessile; stamens 2, filaments 2-3.5 mm long, distinct or connate at base, glabrous; anthers 0.4-0.5 mm long, drying purplish. Pistillate aments 4-9 cm long, usually sessile, floriferous branchlets less than 0.5 cm long; pistils about 4.5 mm long, green and glabrous, capsules 5.5-6.5 mm long, tawny; styles 0.8-1.2 mm long; stigmas 0.2-0.3 mm long, 2 slender lobes; stipes 0.9-1.5-2.2 mm long, glabrous; nectaries 1, adaxial, 0.3-0.8 mm long, 0.5-0.66 times as long as stipe; bracts narrowly oblong, apex rounded or attenuate, 1.2-2.4

Plate XXIII



Salix monticola Bebb. Pistillate specimen, *Cody 8056* (left) and vegetative specimen, *Argus 5121* (right)



Map 34 *Salix monticola*

mm long, dark brown to blackish, sometimes bicolour, sparsely villous on both sides with long straight trichomes.

Habitat

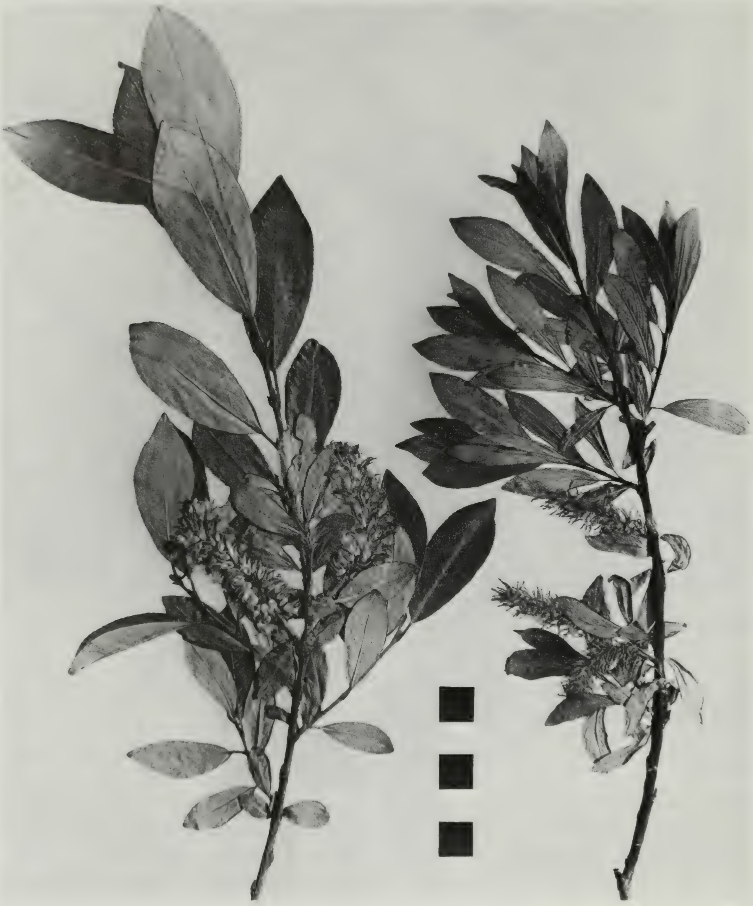
Salix-Carex fens in drainage ways in *Picea glauca* forests; *P. mariana* muskegs; *Populus balsamifera* forests.

Range

Boreal: Central Alaska; eastern Alaska Range; across the southern half of Yukon Territory; Northwest Territories; southward in the cordillera to Colorado and New Mexico; eastward to Saskatchewan and South Dakota (Map 34).

Discussion

Salix monticola is characterized by precocious flowering, sessile aments, reddish immature leaves, petioles and lower midribs, small rounded stipules and sparse leaf and stem pubescence. It is a member of the complex including *S. rigida* and *S. barclayi.* The species may be distinguished on the basis of characteristics in Table 12. It is also related to *S. myrtillifolia* and *S. novae-angliae,* which can be distinguished from it by their non-glaucous



Salix barclayi Anderss. *Argus 6080* (left) and *Argus 6680* (right) leaves. It may sometimes be confused with *S. lanata* ssp. *richardsonii* from which it may be distinguished by its small stipules and very sparse leaf and branchlet pubescence.

Salix monticola is a western North American species reaching its northwestern distributional limit in central Alaska. It varies somewhat in the Rocky Mountains, and two specific names have been based on differences in leaf shape. I am following Cronquist (1964) in combining the broad-leaved *S. padophylla* with the narrower-leaved *S. monticola*. The species in Alaska and the Yukon is represented by the broad-leaved variant.

---

26. *SALIX BARCLAYI* Anderss.

S. barclayi Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 125. 1858. (Type: *Barclay s.n.* photo and frag. A).

S. barclayi f. *rotundifolia* Anderss. *in* DC. Prodr. 16(2): 254. 1868.

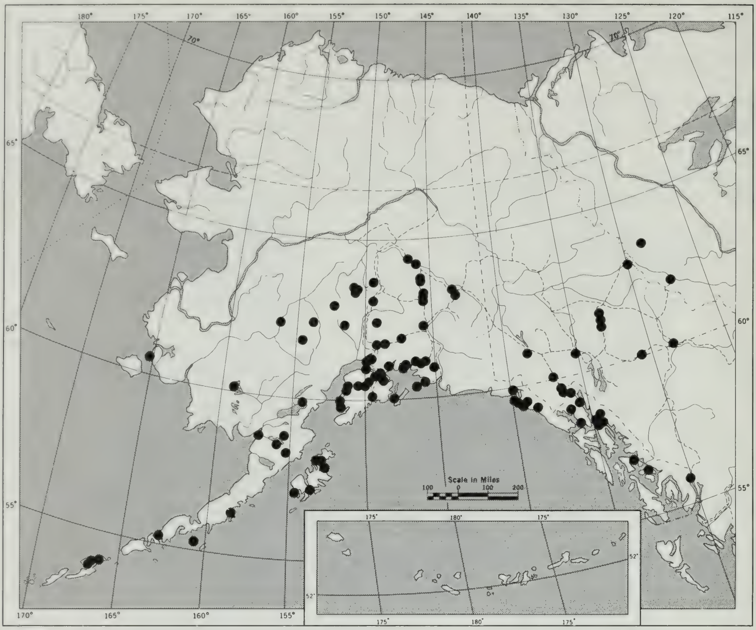
S. barclayi f. *grandifolia* Anderss. *in* DC. Prodr. 16(2): 254. 1868.

S. barclayi f. *angustifolia* Anderss. *in* DC. Prodr. 16(2): 255. 1868.

S. conjuncta Bebb, Bot. Gaz. 13: 111. 1888. (Type: *Parry s.n.* F).

Description of species

Shrubs usually 1-3 m tall, but varying from prostrate to 7 dm or up to 5 m tall; branches dark reddish brown or sometimes chestnut brown, glabrous or with indumentum persistent for two years; branchlets yellow green, glossy, densely to sparsely villous with long straggly trichomes, becoming sparsely pubescent or glabrescent, occasionally glabrous. Leaves elliptic or obovate, rarely narrowly elliptic, the largest mature leaves 3.3-7 (9.9) cm long, 1.2-3.5 (4.8) cm wide, 1.6-2.1-2.8 (4) times as long as wide; apex broad, the tip acuminate or acute; base commonly rounded, sometimes subcordate or acute and inequilateral; margins glandular serrulate, occasionally subentire; the upper side of immature leaves sparsely villous, especially along midrib, the lower side glabrous or very sparsely pubescent; the upper side of mature leaves glabrescent but indumentum may persist along midrib, the lower side glabrous and glaucous, leaves green in life, drying dark brown or blackish especially along the venation; petioles 3-6-14 (20) mm long, tawny, villous adaxially; stipules 1.5-5.13 (22) mm long, ovate or narrowly elliptic, the apex round or attenuate, margins glandular dotted or glandular serrulate, the lower half of upper side often glandular dotted, the lower side glabrous and glaucous. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 2.5-4 cm long, floriferous branchlets 5-11 mm long; stamens 2, filaments 5.6-6.5 mm long, glabrous, distinct; anthers 0.6-0.7 mm long. Pistillate aments (2.5) 4-7 (8) cm long, floriferous branchlets (0.5) 1-2 (3) cm long; pistils about 3.5 mm long, green and glabrous, capsules 5-6.5 mm long; styles 0.6-1.6 mm long; stigmas 0.4-0.6 mm long, 2-lobed; stipes 0.4-



Map 35 *Salix barclayi*

1.4 mm long, glabrous or pubescent; nectaries 1, adaxial, 0.4-0.8 mm long, about 0.5 times as long as stipe; bracts narrowly oblong, apex acute to attenuate, 1.6-2.8 mm long, light brown, dark brown or bicolour and apex darker, pubescent on both sides with long straight trichomes.

Habitat

Large *Salix* thickets on glacial moraine; lake and river shores; subalpine and alpine slopes; occasionally in muskegs, fens, *Picea glauca-Populus tremuloides*, and *Picea sitchensis* forests.

Range

Boreal: Southern coastal Alaska from the eastern Aleutian Islands to Hyder; Alaska Range; Tanana River; southern Yukon and adjacent Northwest Territories; southward in the Rocky Mountains to British Columbia, Washington, and Alberta (Map 35).

Discussion

Salix barclayi is characterized by elliptic to obovate leaves sparsely pubescent above and glabrous and glaucous beneath, often drying brownish, margins glandular serrulate, stipules prominently glandular dotted above; pistils glabrous and nectaries half as long as the stipes.

It is related to *S. novae-angliae, S. myrtillifolia* and *S. commutata* from which it may be distinguished by its glaucous leaves (Table 12); to *S. hookeriana* from which it may be distinguished by a series of characteristics including its prominent stipules and glabrous mature leaves (see *S. hookeriana* for discussion); to *S. monticola, S. rigida* (Table 12) and to *S. hastata* (Table 11), each of which should be referred to for further discussion.

This species forms relatively constant populations in reference to branchlet pubescence, leaf shape, pubescence and serration and to stipule size and shape in southern coastal Alaska, from the Kenai Peninsula southward. At the northwestern end of this range the branchlets tend to be more glabrescent, and further westward to the Aleutian Islands specimens with leaves sparsely pubescent at maturity become more frequent. In the Alaska Range there are specimens with large and more persistent stipules, some with inequilateral, attenuate apices resembling *S. lanata* ssp. *richardsonii.* These specimens can be distinguished from *S. lanata* ssp. *richardsonii* by their narrower leaves, more distinctly serrulate leaf margins and by aments borne on leafy, floriferous branchlets (*see* Table 18).

In northwestern British Columbia, between Alaska and the Yukon, there is a possible introgressive population which deserves some comment. On the south side of Chilkat Pass *S. barclayi* has the typical coastal stipule and branchlet morphology. The stipules are ovate or narrowly elliptic, round or attenuate at the apex, shorter than the petioles and not persistent beyond one year; the branchlets are glabrous to sparsely villous. However, in the alpine vegetation on Chilkat Pass (between the coastal and the interior drainages on the Haines Highway) there is a population of *S. barclayi* which approaches *S. lanata* ssp. *richardsonii* in some morphological characteristics. The stipules are broader at the base and the apex is inequilaterally attenuate; the stipules are longer than the petioles (Fig. 4), and are often persistent into the second year. The branchlets are more coarsely villous with more persistent pubescence. The specimens can be identified as *S. barclayi* on the basis of aments borne on distinct, leafy, floriferous branchlets, a characteristic which does not vary in the intermediate population, but *S. lanata* ssp. *richardsonii* also occurs in these alpine populations and hybridization and introgression may be an explanation for this unusual variation within *S. barclayi.*

See *S. stolonifera* for a discussion of hybridization with *S. barclayi.*

---

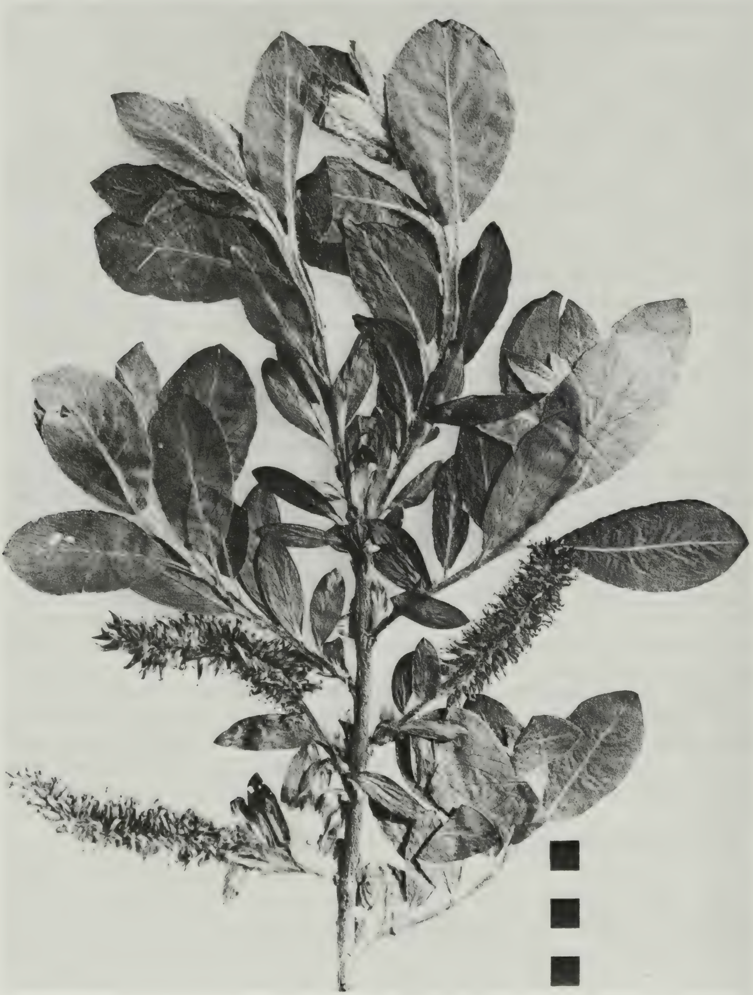
27. *SALIX HOOKERIANA* Barr.

S. hookeriana Barr. *in* Hook. Fl. Bor.-Am. 2: 145. 1838.

S. amplifolia Cov. Proc. Wash. Acad. Sci. 2: 282. 1900. (Type: *Coville & Kearney 1153,* US).

Description of species

Trees or shrubs 0.6-1-5 (8) m tall, rarely prostrate, the largest stems about



Salix hookeriana Barr. *Argus 6126*

13 cm in diameter; branches thick and very brittle, reddish brown, usually with lanate or villous-lanate indumentum persistent for 2-3 years; branchlets usually densely white villous-lanate and remaining so throughout the year, sometimes becoming sparsely villous; buds densely white villous. Leaves broadly elliptic to elliptic or broadly obovate, the largest mature leaves 3.6-7 (10.3) cm long, 1.9-3.9-6.3 cm wide and 1.5-1.9 (2.1) times as long as wide; apex round, with acute tip or obtuse, often conduplicate when pressed; base round; margins distantly and irregularly glandular crenate especially near the base, often crisped in life, sometimes entire, often more or less revolute; immature leaves densely white villous on both sides; the upper side of mature leaves sparsely pubescent, yellow green and glossy, the lower side sparsely villous to glabrescent except for the midrib which retains long straight trichomes, thinly glaucous; petioles 4-12 mm long, densely white lanate to sparsely villous; stipules usually absent but sometimes present on vigorous shoots, 0.5-1.8 (2.5) mm long. Aments coetaneous or subprecocious, on leafy, floriferous branchlets. Staminate aments 2.5-5.5 cm long, usually very thick, floriferous branchlets 0-0.5-2.3 cm long, densely villous, leaves usually small and bract-like; stamens 2, filaments about 9 mm long, glabrous, distinct or slightly connate at base; anthers (0.5) 0.8-1 mm long. Pistillate aments 2.2-8-14 cm long, ovaries at distal end sometimes undeveloped, capsules at proximal end usually reflexed, floriferous branchlets 1-3.5 cm long with normal or bract-like leaves; pistils 3.6-6.4 mm long, green, glabrous or partially or completely lanate, capsules up to 8-10 mm long, tawny; styles 1.1-2.3 mm long, red in life; stigmas 0.5-0.6 mm long; stipes 0.6-1.8 mm long, lanate; nectaries 1, adaxial, 0.6-0.8 mm long, 1-2-lobed, about 0.5-0.66 times as long as stipe; bracts broadly oblong, apex rounded, sometimes retuse or acuminate, 2.4-3.6 mm long, brown or blackish, villous on both sides.

Habitat

Stabilized sand dunes; wet *Carex* meadows near coast; beach ridges; edges of *Heracleum-Angelica* meadows; *Salix* thickets on morainal flats.

Range

Pacific coastal: Yakutat Bay region; Childs Glacier; Middleton Island; Kodiak Island; southwestern British Columbia; Washington; Oregon; California (Map 36).

Discussion

Salix hookeriana is a very distinctive coastal tree or shrub characterized by brittle branches; densely villous-lanate branchlets with long, persistent villous trichomes at the base; leaves pubescent on both sides, although sometimes sparsely so; stipules apparently absent except on vigorous sprout shoots, or, if present, very small; aments often very stout and long, pistils glabrous or pubescent and styles red in life.

This species is related to *S. barclayi*, but it is not conspecific with it as maintained by Hultén (1967). The two are amply distinct and show no intergradation even within sympatric populations at Yakutat and Tanis Mesa in southern coastal Alaska. *Salix hookeriana* can be distinguished from *S.*

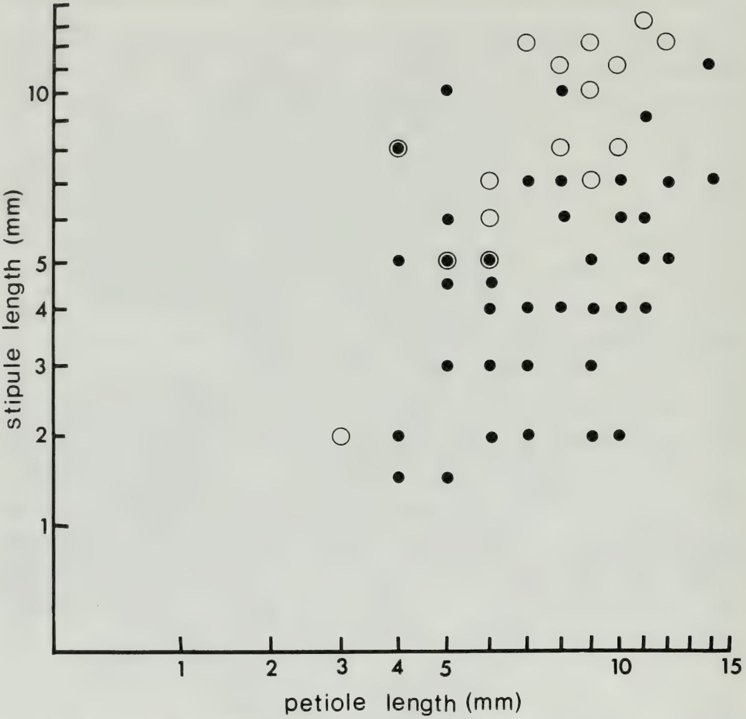
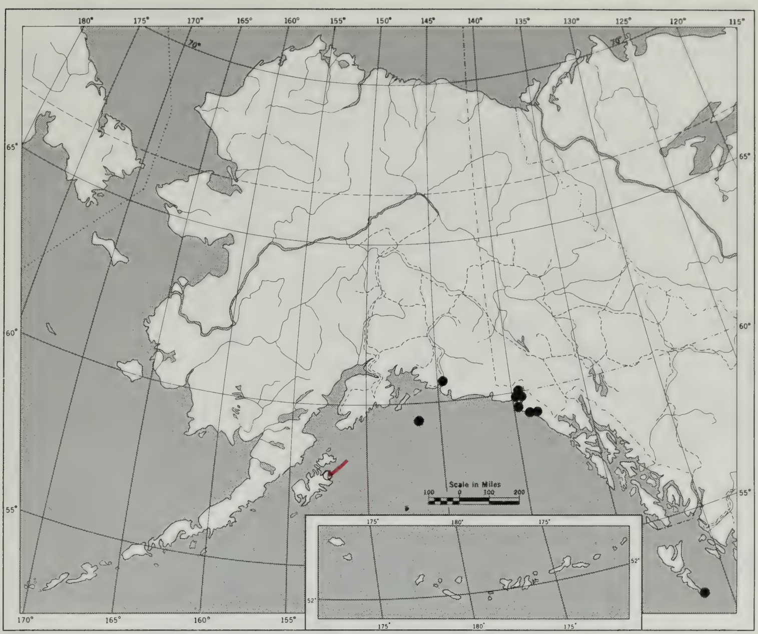


Fig. 4 The variation in stipule and petiole length in *Salix barclayi.* A population from the Three Guardsman Pass, Haines Highway, British Columbia (circles) is generally characterized by having larger stipules than the coastal populations (dots). However, wide variation is revealed in both regions. The scales are logarithmic.

barclayi by its brittle branches, villous-lanate branches and branchlets, leaves pubescent beneath, stipules absent or very small and red styles.

Salix hookeriana was first described from Alaska as *S. amplifolia* and was, until 1967, known only from the type material. In 1967 I revisited the type region at Yakutat Bay and found this willow to be abundant as a tree on stabilized coastal sand dunes. It was subsequently recognized and collected near the town site of Yakutat and at Tanis Mesa. Positively identified specimens, originally cited as *S. barclayi* and its hybrids (Thomas 1957), have since been seen from Middleton Island. In addition, more or less equivocal specimens have been seen from Childs Glacier near the Copper River and from Kodiak. This species should be sought in suitable habitats elsewhere in coastal Alaska.

The decision to combine *S. amplifolia* with *S. hookeriana* was reached after careful consideration of ample material of both taxa. Each of these taxa is



Map 36 *Salix hookeriana.* Circle based on a specimen of doubtful identity

highly variable, and the differences which have been used to differentiate between them, such as style length, leaf pubescence and size of the floriferous branchlets, are in themselves highly variable and not diagnostic.

Salix hookeriana has been reported for eastern Siberia by Floderus (1933) who cited a collection from the Anadyr region, and by Nasarov (1936) from Len-Kolymsk (Zhiganska). Skvortsov (1966) is inclined to doubt the accuracy of these records.

---

28. *SALIX COMMUTATA* Bebb

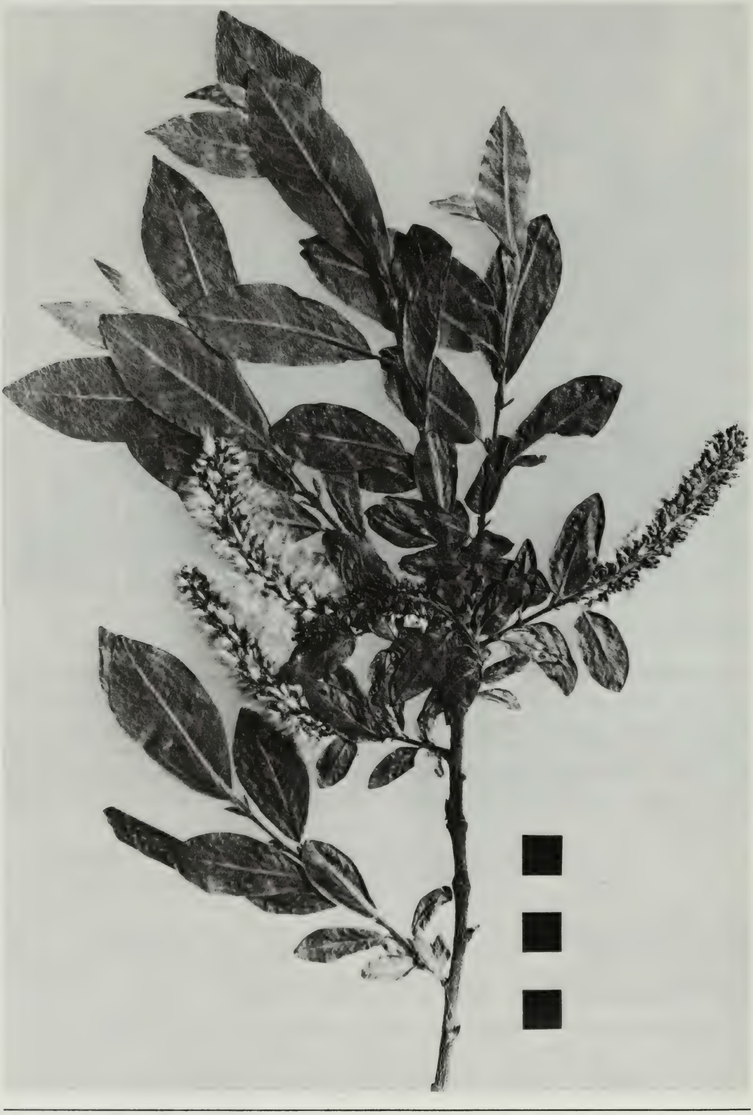
S. commutata Bebb, Bot. Gaz. 13: 110. 1888. (Type: *Cusick 826,* F).

S. barclayi var. *commutata* Kelso, Biol. Leafl. 34: 8. 1946.

S. commutata var. *denudata* Bebb, Bot. Gaz. 13: 111. 1888. (Type: *Cusick 1304c,* F).

S. commutata var. *puberula* Bebb, Bot. Gaz. 13: 111. 1888.

S. commutata var. *sericea* Bebb, Bot. Gaz. 13: 111. 1888. (Type: *Howell s.n.* F). *S. commutata* (ssp.) *mixta* Piper, Contr. U.S. Nat. Herb. 11: 216. 1906.



Salix commutata Bebb. *Argus 6588*

Description of species

Low shrubs 0.2-1 (2) m tall; branches dark brown, sometimes remaining pubescent for two years; branchlets densely white lanate to sparsely villous. Leaves elliptic to broadly or narrowly elliptic, the largest mature leaves (2.8) 3.5-5.5 (10) cm long, 1.3-3.4 (4.4) cm wide and (1.5) 1.7-2.6 (3.4) times as long as wide; apex acute, acuminate on vigorous leaves; base round or rarely subcordate; margins glandular serrulate on proximal half and entire on distal half or completely entire or completely glandular serrulate; immature leaves densely villous on both sides; the upper side of mature leaves yellow green, villous with long straggly trichomes, the lower side villous-lanate with mixture of long straight and short curly trichomes, green (non-glaucous) and glossy, leaves sometimes becoming sparsely villous on both sides; petioles short, 1.5-7 (10) mm long, villous; stipules half-ovate, (0.8) 1-6 (9) mm long, green, sparsely villous and glandular serrulate. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 1.5-3.5 cm long, floriferous branchlets 0.6-2 cm long; stamens 2, filaments 5-7 mm long, glabrous, distinct or connate below; anthers 0.4-0.9 mm long. Pistillate aments 3.5-7 cm long, floriferous branchlets 1.2-3.5 cm long; pistils pyriform, 2-4 mm long, usually reddish but sometimes greenish, glabrous, capsules 4.4-6.4 mm long, reddish, greenish or tawny; styles 0.6-1.2 mm long; stigmas about 2 mm long, 2-lobed; stipes 0.3-1.2 mm long, glabrous; nectaries 1, adaxial, 0.3-0.6 mm long, 0.5-0.66 time as long as stipe; bracts narrowly oblong, apex acute, 1.1-2 mm long, tawny, dark brown or bicolour and darker at apex, pubescent with short wavy or long straight trichomes.

Habitat

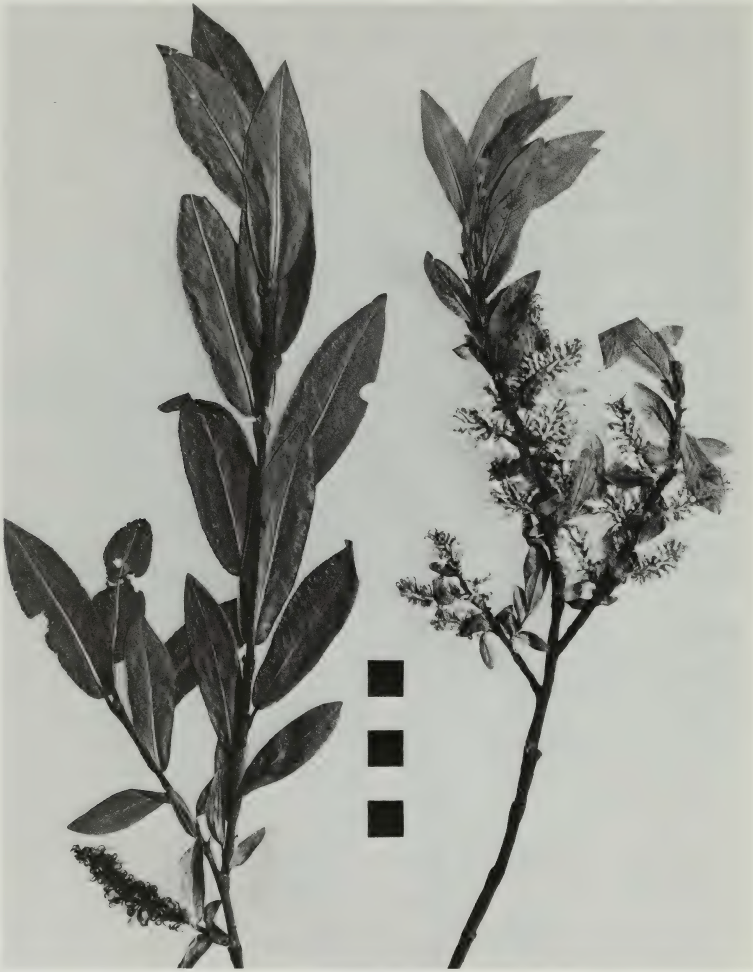
A pioneer species on glacial moraine and rocky slopes; alpine tundra (up to 5,000 ft); gravel benches along rivers; *Salix* thickets in wet fens.

Range

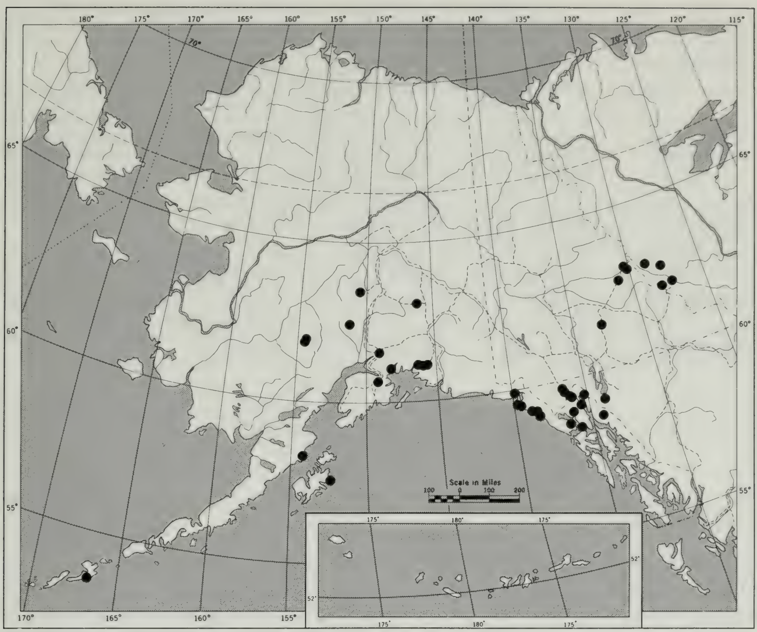
Alpine, boreal: Southern coastal Alaska from Unalaska; Aleutian Islands; Kodiak Island; Kenai Peninsula; central Alaska Range; southward to the northern end of southeastern Alaska; southern Yukon Territory, especially the mountains near the Northwest Territories boundary; adjacent Northwest Territories and British Columbia; southward in the cordillera to California, Utah, Montana, and Wyoming (Map 37).

Discussion

Salix commutata is characteristically a late-flowering species with non-glaucous leaves which have a distinctly straggly pubescence composed of a mixture of curly and straight trichomes. The petioles are short (1.5-7 mm long) and the stipules are often as long as the petioles. The pistils are usually reddish or reddish orange but may grade into yellow green. This species is related to *S. novae-angliae, S. myrtillifolia* and is similar to *S. hastata*. These



Salix novae-angliae Anderss. *Argus 6935* (left) and *Argus 5067* (right)



Map 37 *Salix commutata*

taxa may be distinguished as in Table 13. Since *S. commutata* is often sympatric with *S. barclayi* the two are sometimes confused, but the distinctive non-glaucous leaves and persistent pubescence on both sides of the leaves, as well as the reddish pistils, serve to distinguish *S. commutata.*

Salix commutata is variable in leaf shape and pubescence, margin dentition and pistil colour. Two varieties have been based on variation in leaf indumentum, var. *denudata* and var. *sericea,* but they seem to be well within the normal variational limits for the species. Immature leaves are usually densely villous, but as they unfold, the lower surface near the apex may become glabrescent, and throughout leaf ontogeny the general pubescence progressively diminishes so that old leaves may be almost glabrescent. The leaf margin dentition varies considerably, from entire to glandular serrulate on the lower half only, to entirely serrulate with all intermediate stages possible. Some specimens with serrulate leaf margins were recognized by Hultén (1943) as the hybrid *S. commutata* × *myrtillifolia.* In my judgement, there is no justification for using hybridization to explain this variation.

Table 13 Comparison table: *Salix commutata, S. novae-angliae, S. myrtillifolia* and *S. hastata*

Characteristics	*commutata*	*novae-angliae*	*myrtillifolia*	*hastata*
leaves beneath	non-glaucous	non-glaucous	non-glaucous	non-glaucous or thinly glaucous
immature leaf pubescence	densely villous with white trichomes	sparsely villous with white or rarely ferruginous trichomes	glabrous	pubescent with white or ferruginous trichomes
mature leaf pubescence	sparsely villous-lanate	glabrescent	glabrous	glabrescent
pistil colour	usually reddish	green	green	partly reddish
leaf margins	serrulate to entire	crenate	crenate to crenate-serrulate	entire or irregularly serrulate
style length	0.6-1.2 mm	0.5-0.9 mm	0.3-0.5 mm	0.2-0.4 mm

29. *SALIX NOVAE-ANGLIAE* Anderss.

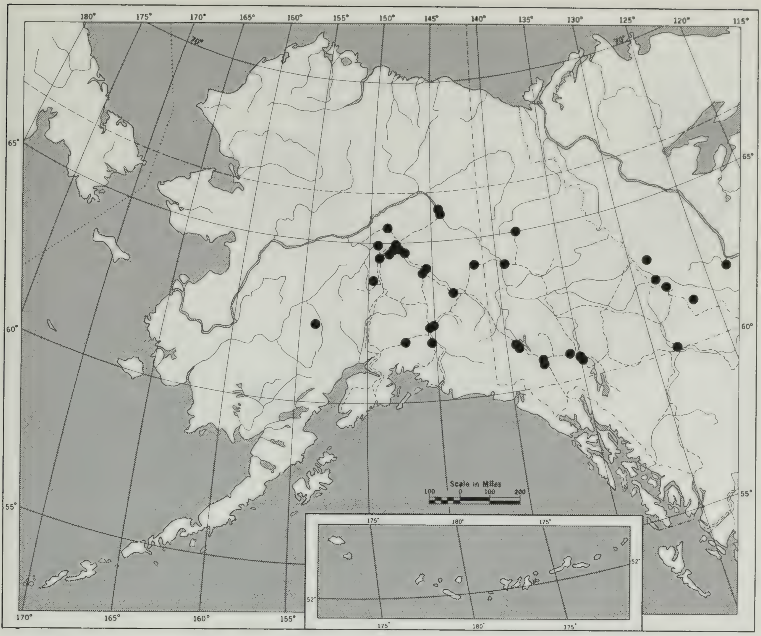
S. novae-angliae Anderss. Kg. Sv. Vet. Akad. Handl. 6: 160. 1867. (Type: *Drummond 665,* NY).

S. myrsinites L. (ssp.) *S. pseudomyrsinites* Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 129. 1858. *S. novae-angliae* (ssp.) *S. pseudomyrsinites* Anderss. Kg. Sv. Vet. Akad. Handl. 6: 160. 1867. *S. novae-angliae α* (var.) *pseudomyrsinites* Anderss. *in* DC. Prodr. 16 (2): 253. 1868. *S. myrtillifolia* Anderss. var. *pseudomyrsinites* Ball ex. Hult. Fl. Alaska and Yukon 3: 538. 1943.

S. myrsinites L. (ssp.) *S. curtiflora* Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 130. 1858. *S. novae-angliae* (ssp.) *S. pseudocordata* Anderss. Kg. Sv. Vet. Akad. Handl. 6: 161. 1867. *S. novae-angliae β* (var.) *pseudocordata* Anderss. *in* DC. Prodr. 16 (2): 253. 1868. *S. myrtillifolia* (ssp.) *curtiflora* Rose, Contr. U.S. Nat. Herb. 3: 573. 1896. *S. pseudocordata* Rydb. Fl. Colo. 94. 1906.

Description of species

Erect shrubs 0.6-2-4 m tall; branches greyish brown or dark reddish brown, indumentum may persist for 2-3 years or the branches soon become glabrate, glaucous; branchlets usually densely white villous with long straight trichomes, becoming sparsely pubescent with straight and curved trichomes, sometimes glaucescent. Leaves narrowly elliptic to narrowly obovate, the largest mature leaves 3.2-4.5-6.8 cm long, 1-1.7-2.7 cm wide and 2-2.8-4.8 times as long as wide; apex broadly acute to obtuse or round; base round; margins glandular crenate or glandular crenate-serrulate; immature leaves reddish and villous; the upper side of mature leaves glabrescent, but midrib remaining pubescent with white or sometimes ferruginous trichomes, glossy, the lower side usually glabrescent, rarely sparsely villous, glossy, pale green, non-glaucous, the leaves becoming brownish on drying; petioles



Map 38 *Salix novae-angliae*

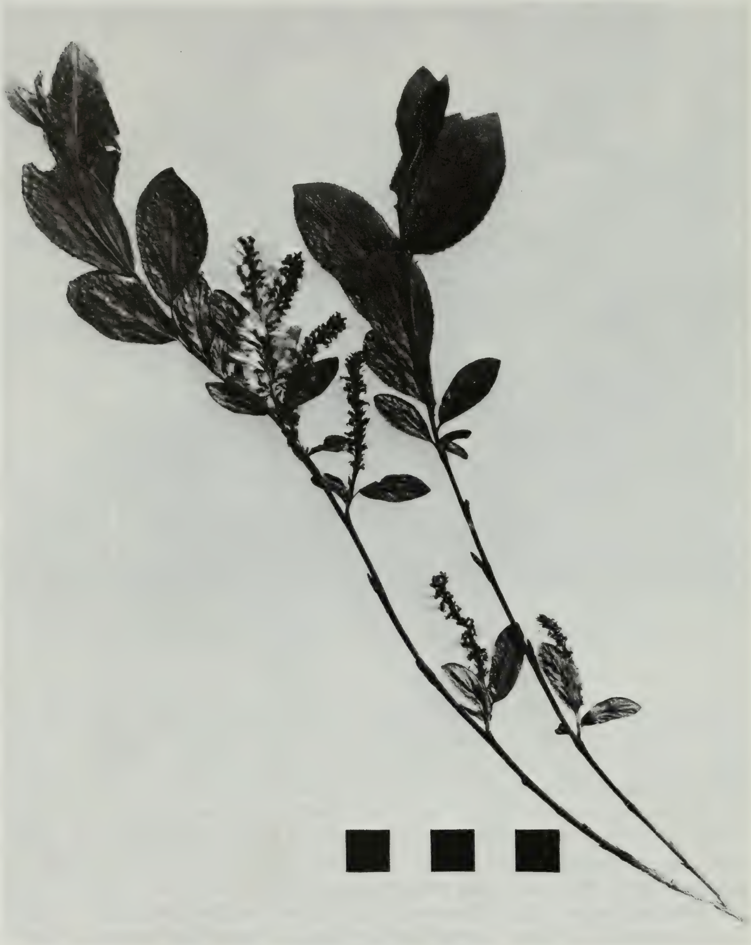
2.5-3-7 mm long, yellow green, pubescent adaxially; stipules semi-ovate 0.5-2-7 mm long, margins glandular and more or less crenate. Aments coetaneous, on leafy, floriferous branchlets. Staminate aments 1.5-2 cm long, floriferous branchlets about 3 mm long; stamens 2, filaments about 2.5-4 mm long, glabrous; anthers 0.4-0.7 mm long. Pistillate aments (1.5) 2.2-3-4.5 cm long, floriferous branchlets 0.5-1-1.8 cm long; pistils 4-5.5 mm long, green, glabrous, capsules 4.4-6.4 mm long; styles 0.5-0.9 mm long; stigmas 0.2-0.4 mm long; stipes 0.8-1.4 mm long, glabrous; nectaries 1, adaxial, 0.2-0.4 mm long, about 0.25 times as long as stipe; bracts oblong, apex rounded, 0.7-0.9 mm long, bicolour, apex dark brown and tawny below, or uniformly brown, glabrescent or pubescent on both sides with long wavy trichomes.

Habitat

Salix thickets on shores of lakes, streams, and rivers with *Betula glandulosa-Alnus* or *Populus balsamifera;* prairie margins; muskegs.

Range

Boreal: Central Alaska; southern half of Yukon Territory and adjacent Northwest Territories; southward in the cordillera to California; eastward to Saskatchewan (Map 38).



Salix myrtillifolia Anderss. *Argus 373-58*

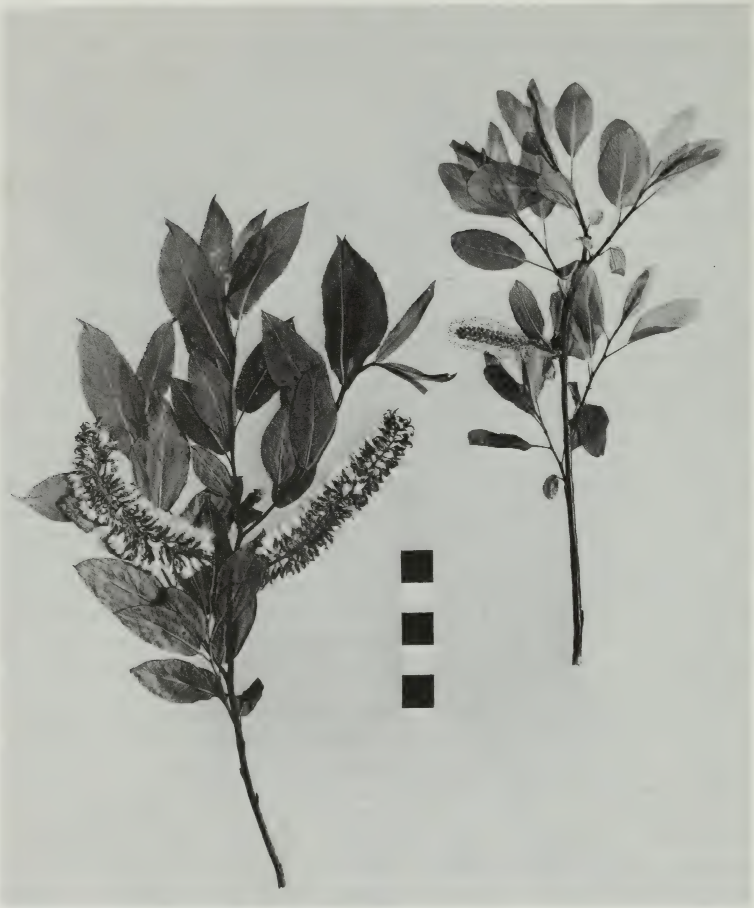
Discussion

Salix novae-angliae is characterized by erect shrubs 0.6-2-4 m tall; leaves green on both sides, sometimes pale beneath but non-glaucous, often drying brownish, margins glandular crenate; pistils glabrous, stipes about 1 mm long and about 4 times as long as the nectary.

This species is closely related to *S. myrtillifolia* and has long been confused with it in Alaska and the Yukon. However, it has been evident to students of western Canadian flora and Alaskan flora that there are two related elements in this area, one a low, spreading shrub (*S. myrtillifolia*) and the other a tall shrub (*S. novae-angliae*). In 1943 Hultén recognized the tall shrub as *S. myrtillifolia* var. *pseudomyrsinites* and contrasted it with *S. pseudocordata* with which it is probably synonymous. Hultén's comments on this taxon confused students of the group because he stated that the styles are 1 mm long or longer, whereas they are 0.5-0.9 mm long, and that they have glaucous leaves, whereas they are non-glaucous. In 1968 Hultén stated that var. *pseudomyrsinites* has "acute, long leaves and longer styles" and that the variety seems to represent hybrid forms. I agree with his morphological differences, but I know of no evidence that suggests that this taxon represents hybrid forms. Raup (1959) also commented on the binary nature of *S. myrtillifolia* but noted that the taller plants were connected with the shorter plants by a series of transitional forms. My studies have not led to the same conclusion, and I am able to describe a combination of characteristics which can be used to distinguish *S. novae-angliae* from *S. myrtillifolia* (Table 14).

The characteristics of plant height and leaf pubescence are usually diagnostic and, when combined with style and stipule length, permit the identification of all specimens. It is hoped that distinguishing these species will result in eco-geographical information that will further improve our understanding of their taxonomy.

There is a serious nomenclatural problem associated with *S. novae-angliae* and *S. myrtillifolia* which can only be resolved by a study of the Drummond, Bourgeau, Richardson and Burke material originally studied by Andersson (1858), and by the typification of his taxa. I have seen one specimen, *Drummond 665,* Rocky Mountains (NY), which was originally determined by Andersson as *S. myrsinites* L. and was probably a part of the original material on which the inadmissible names *S. myrsinites* (ssp.) *S. pseudomyrsinites* or *S. myrsinites* (ssp.) *S. curtiflora* were based. These names were later changed to *S. novae-angliae* (ssp.) *S. pseudomyrsinites* and *S. novae-angliae* (ssp.) *S. pseudocordata,* respectively (Andersson 1867). The Drummond specimen is typical of what is usually called *S. pseudocordata* in western Canada, a name which represents, at least in part, Andersson's *S. novae-angliae.* Until further original material can be studied, it seems best to assume that Andersson's name, *S. novae-angliae,* circumscribes two recognizable elements: one is *S. novae-angliae* (*S. pseudocordata* or *S. myrtillifolia* var. *pseudomyrsinites*) and the other is *S. myrtillifolia.* Until the nomenclatural problems surrounding Andersson's intraspecific names can be resolved and until his original specimens can be restudied, the recognition of *S. novae-angliae* and *S. myrtillifolia* as species will emphasize their distinctness and



Salix pyrifolia Anderss. Pistillate specimen, *Argus 7481,* 9 VII 1969, Big Country Pond, Newfoundland, GWA (left) and staminate specimen, *Argus 6079* (right)

Table 14 Comparison table: *Salix novae-angliae* and *S. myrtillifolia*

Characteristics	*novae-angliae*	*myrtillifolia*
habit	tall shrubs, 1-4 m tall	low, decumbent shrubs less than 1 m tall
leaf pubescence	juvenile and mature leaves pubescent at least on upper midrib	leaves glabrous
leaf length	3.2-4.5-6.8 cm	2.5-5 cm
leaf colour	paler beneath	green to pale beneath
stipule length	1-5 mm	minute to 1-2 mm
style length	0.5-0.9 mm	0.3-0.5 mm

will avoid some of the confusion associated with the names *S. pseudocordata* and *S. myrtillifolia* var. *pseudomyrsinites.*

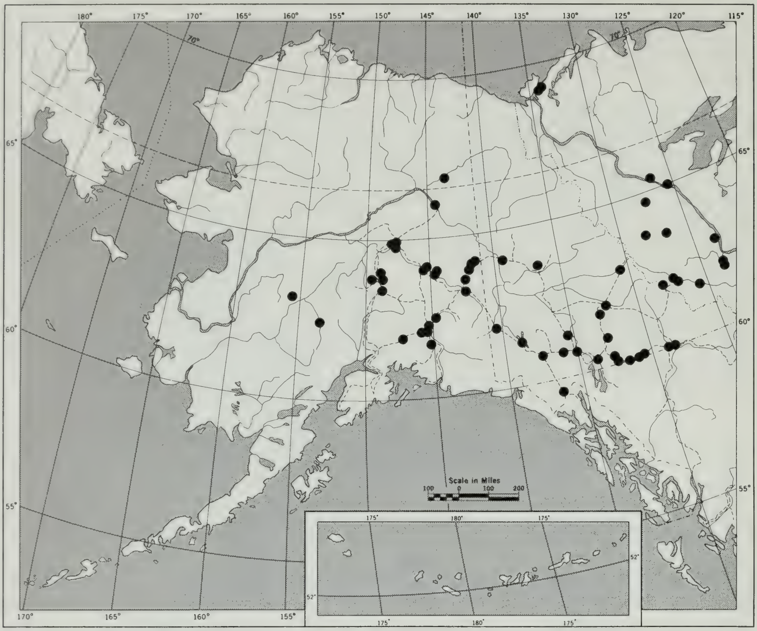
30. *SALIX MYRTILLIFOLIA* Anderss.

S. myrtillifolia Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 132. 1858.

S. novae-angliae Anderss. (ssp.) *S. myrtillifolia* Anderss. Kg. Sv. Vet. Akad. Handl. 6: 162. 1867. *S. novae-angliae* Anderss. γ (var.) *myrtillifolia* Anderss. *in* DC. Prodr. 16(2): 253. 1868.

Description of species

Low shrubs 1-9 dm tall, usually decumbent or trailing and rooting along stem; branches greyish brown, glabrescent; branchlets greenish brown to dark reddish brown, glossy, sparsely pubescent with short curved trichomes, sometimes more or less glaucous; buds sparsely pubescent, sometimes glaucous. Leaves narrowly elliptic to narrowly obovate, the largest mature leaves 2-3.3-5.1 cm long, 0.9-1.5-2.2 cm wide and 1.7-2.2-3.6 times as long as wide; apex broad, the sides forming an acute angle but the tip round; base round or cuneate; margins glandular crenate to glandular crenate-serrulate; immature leaves glabrous, sometimes reddish and translucent; the upper side of mature leaves green, glossy and glabrous, the lower side pale green, glossy and glabrous, the leaves sometimes blackening on drying; petioles 1.5-8 mm long, tawny and glabrous; stipules narrowly elliptic, 0.2-1.8 (3) mm long, margins glandular, glabrous. Aments coetaneous, on short, leafy, floriferous branchlets. Staminate aments 1.3-3.5 cm long, floriferous branchlets 2-7 mm long; stamens 2, filaments about 2.5 mm long, glabrous; anthers 0.3-0.5-0.6 mm long. Pistillate aments 1.3-4.2 cm long, floriferous branchlets 3-10 mm long; pistils 3-3.5 mm long, glabrous and green, capsules 4-6 mm long, greenish or tawny; styles 0.3-0.5 mm long; stigmas about 0.2 mm long, 2 horseshoe-shaped lobes; stipes 0.6-1.6 mm long, glabrous; nectaries 1, adaxial, 0.2-0.4 mm long, 0.1-0.5 times as long as stipe; bracts narrowly



Map 39 *Salix myrtillifolia*

oblong, apex rounded, 0.4-1.1 mm long, dark brown or bicolour, darker brown to black at apex and tawny below, glabrous to sparsely pubescent abaxially, sparely pubescent with long straight or curly trichomes adaxially.

Habitat

Muskegs; fens; wet lake margins; wet river banks; subalpine *Picea glauca-Betula papyrifera* thickets.

Range

Boreal: Central Alaska; Mackenzie River Delta; southern half of Yukon Territory; eastward across boreal Canada to Newfoundland; south in the Rocky Mountains to British Columbia and Alberta (Map 39).

Discussion

Salix myrtillifolia is characterized by low, decumbent shrubs trailing in moss; leaves green on both sides, often drying brownish; very short styles (0.3-0.5 mm long); and bracts sparsely pubescent and shorter than the capsule bearing stipes. It is closely related to *S. novae-angliae,* which should be seen for discussion (Table 14).

Hultén (1968) maps three localities, outside the range presented here (Map 39), which I have not verified: Cape Beaufort, Okpilak River region and

Chignik. The first two records are highly suspect and are probably based on misidentifications. The latter record from the Alaska Peninsula may be correct, but I have not seen any specimens of *S. myrtillifolia* from this region; if the record is correct, it represents a significant range disjunction.

---

31. *SALIX PYRIFOLIA* Anderss.

S. pyrifolia Anderss. Kg. Sv. Vet. Akad. Handl. 6: 162. 1867.

S. balsamifera Barr. ex Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 5: 125. 1858.

Description of species

Shrubs 1-3 m tall; branchlets glabrous, shiny, dark reddish brown, rarely greenish, drying black; buds and foliage with a balsam-like fragrance. Leaves narrowly elliptic, narrowly ovate to ovate, the largest mature leaves 3-6 (8.5) cm long, 2-3.5 (4) cm wide, and 1.6-2.5 times as long as wide; apex acute; base cordate to rounded; margins glandular serrulate on immature leaves, becoming coarsely serrate or crenate in age; immature leaves membranaceous and translucent, thinly pubescent or glabrescent, green on both sides or thinly glaucous beneath; mature leaves subcoriaceous, opaque, the lower surface reticulate veined and glaucous; petioles 7-15 mm long, pubescent, sometimes glandular at the distal end; stipules small, caducous. Aments coetaneous, on short, leafy, floriferous branchlets. Staminate aments 2-5 cm long, floriferous branchlets 5-7 mm long; stamens 2, filaments glabrous or pubescent at base. Pistillate aments loosely flowered, 2.5-6 (9) cm long, floriferous branchlets 0.5-3 cm long; pistils glabrous, capsules 5-9 mm long, spreading or reflexed; styles 0.5-1 mm long; stipes 2.5-4 mm long, nectary 1, adaxial; bracts oblong, 1.5 mm long, tawny and pilose.

Habitat

Muskegs; fens; wet lake and slough margins.

Range

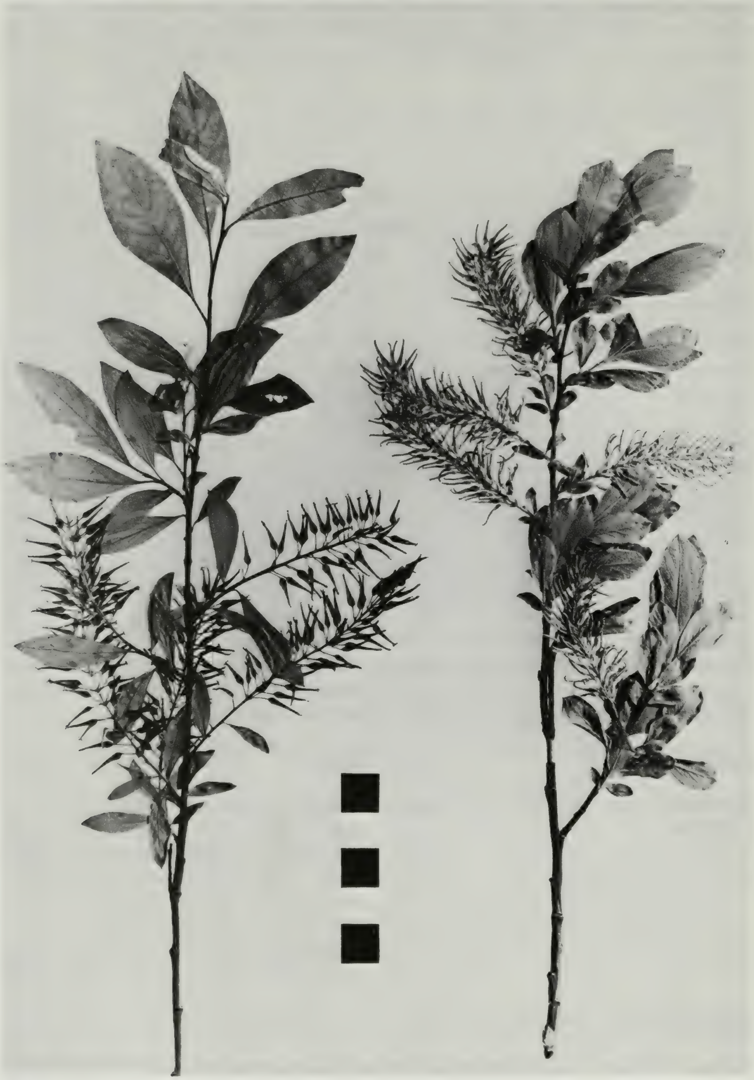
Boreal: Known in Yukon Territory only from Palmer Lake on the western flanks of the Mackenzie Mountains; western Northwest Territories; northeastern British Columbia, eastward across boreal Canada to Newfoundland; south to northern New York (Map 40).

Discussion

Salix pyrifolia is characterized by membranaceous and translucent immature leaves, subcoriaceous mature leaves with a reticulate lower surface and often with a cordate base. The buds and foliage have a balsam-like fragrance.

This distinctive species is known in our area only from Palmer Lake in northern Yukon. This record is a considerably northward extension of its

Plate XXX



Salix bebbiana Sarg. *Cody 8083* (left) and *Argus 13-62* (right) known range. It should be sought elsewhere in the wet forests and fens of the Yukon and northwestern Northwest Territories.

Section 12. Vetrix Dumort.

32. *SALIX BEBBIANA* Sarg.

S. bebbiana Sarg. Gard. and For. 8: 463. 1895. (Type: *Richardson s.n.* NY).

S. rostrata Richards. Bot. App. *in* Frankl. Journ. 753. 1823, non Thuill, 1799. *S. cinerascens* (var.) *occidentalis* Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 122. 1858. *S. vagans* (ssp.) *cinerascens* (var.) *occidentalis* Anderss. Proc. Amer. Acad. Arts and Sci. 4: 16. 1858. *S. vagans* (ssp.) *S. rostrata* Anderss. Kg. Sv. Vet. Akad. Handl. 6: 87. 1867. *S. livida* var. *occidentalis* Gray, Man. Bot. 5th ed. 464. 1867. *S. livida* (var.) *rostrata* Dippel, Handb. Laubh. 2: 255. 1892. *S. depressa* L. ssp. *rostrata* Hiitonen, Mem. Soc. Faun. Fl. Fenn. 25: 82. 1950.

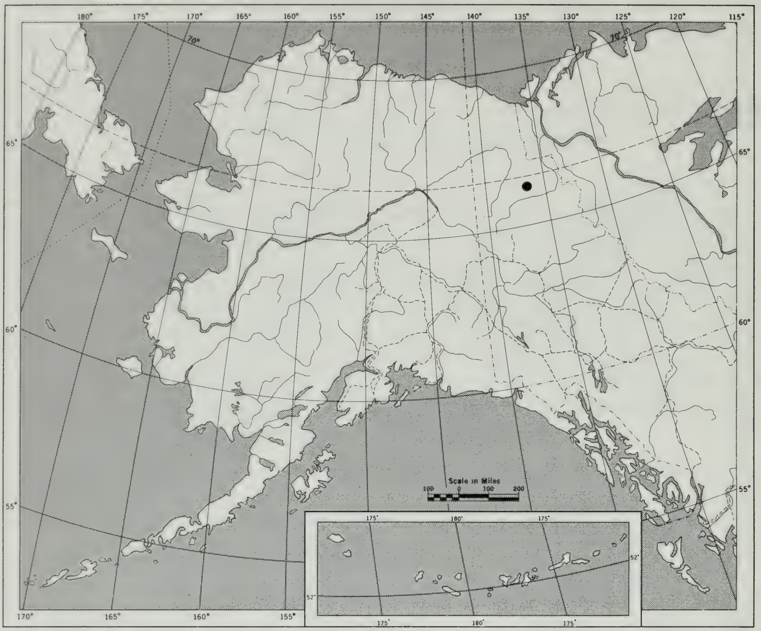
S. perrostrata Rydb. Bull. N.Y. Bot. Gard. 2: 163. 1901. (Type: *Rydberg 1018,* NY). *S. rostrata* var. *perrostrata* Fern. Rhodora 16: 177. 1914. *S. bebbiana* var. *perrostrata* Schneid. J. Arnold Arb. 2:71. 1920.

S. xerophila Flod. Bot. Not. 1930: 334. 1930.

S. bebbiana var. *depilis* Raup, Sargentia 6: 159. 1947. (Type: *Raup & Soper 9306,* A).

Description of species

Shrubs to small trees 0.5-10 m tall; branches divaricate, reddish brown, pubescent to glabrescent; branchlets densely pubescent with straggly trichomes. Leaves elliptic to obovate or narrowly ovate, the largest mature leaves 2.6-6 (7.2) cm long, 1-2 (3) cm wide and (1.8) 2.2-3.5 (3.9) times as long as wide; apex acute to obtuse, often conduplicate when pressed; base round to obtuse, rarely acute; margins entire to crenate, slightly revolute; the upper side of mature leaves pubescent with straight and wavy trichomes, or glabrescent, the lower side sericeous-lanate with short wavy trichomes or glabrescent, glaucous and rugose; petioles 2-9 (12) mm long, pubescent; stipules deciduous, (0.4) 1-5.6 mm long. Aments coetaneous or subprecocious, on short, leafy, floriferous branchlets. Staminate aments 0.6-1.5 cm long, floriferous branchlets 1-3 mm long; stamens 2, filaments about 6 mm long, glabrous and distinct; anthers 0.5-0.8 mm long. Pistillate aments 2.8-5 cm long, floriferous branchlets 3-15 mm long; pistils 5.5-7 mm long, long-beaked, greenish, rarely reddish, sericeous, capsules 5.5-8.5 mm long, glabrescent to sparsely pubescent; styles 0.1-0.4 mm long; stigmas 0.4-0.7 mm long, 2.4-lobed; stipes 2.8-4.8 mm long, pubescent; nectaries 1, adaxial, 0.4-0.5 mm long, about 0.1 times as long as stipe; bracts narrowly oblong, apex acuminate, 1.2-3.2 mm long, tawny, rarely reddish at apex, sparsely pubescent becoming glabrescent.



Map 40 *Salix pyrifolia*

Habitat

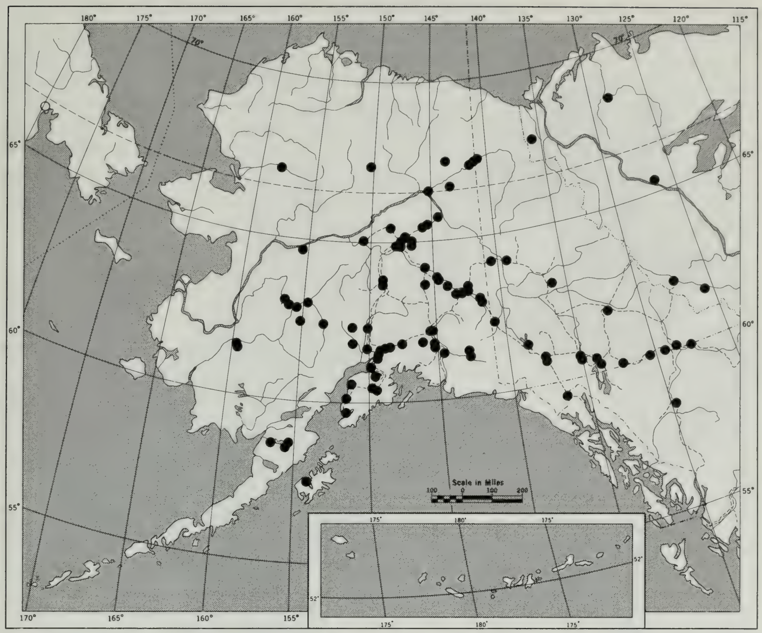
Riverine and upland forests with *Picea glauca, Betula papyrifera, Populus tremuloides;* wet lowland thickets; *Picea mariana* muskegs; prairie margins; dry south-facing slopes; disturbed areas, such as roadsides and burns.

Range

Boreal, temperate: Central Alaska; eastern Alaska Peninsula; Kodiak Island; Kenai Peninsula; absent in Pacific coastal Alaska from Prince William Sound to southeastern Alaska; southern half of Yukon Territory and adjacent Northwest Territories; transcontinental in boreal and temperate Canada; south in the cordillera to Arizona and New Mexico; eastward across northern United States; Eurasia: Kola Peninsula to Chukotsk Peninsula (Map 41).

Discussion

Salix bebbiana is one of the most common willows in the forested part of Alaska and the Yukon. It is characterized by rugose leaves with entire to crenate margins, deciduous stipules, pistils on very long stipes (2.8-4.8 mm

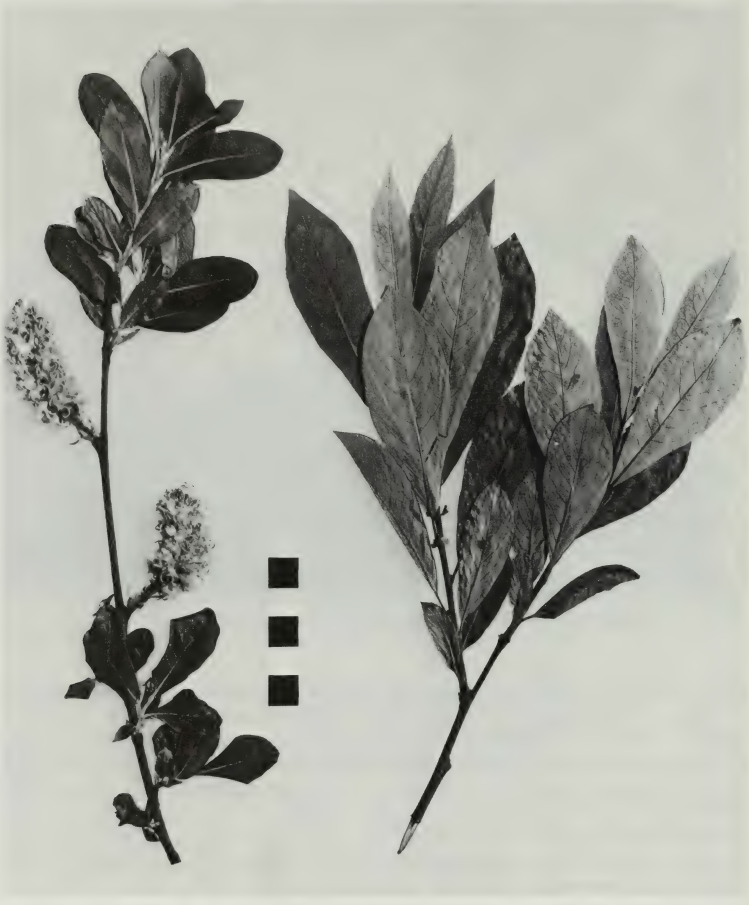


Map 41 *Salix bebbiana.* Circle based on Skvortsov, 1966, as *S. xerophila*

long), nectaries about 0.1 times as long as the stipes, and tawny bracts.

There is considerable variation in leaf and branchlet pubescence and in leaf rugosity within *S. bebbiana.* This variation has provided the basis for the description of a series of progressively more glabrescent taxa, from the pubescent and rugose-leaved var. *bebbiana* to the glabrescent, plane-leaved var. *perrostrata* to the almost glabrous var. *depilis.* In the material that I have studied from Alaska and the Yukon, about 60 per cent are of the pubescent form and 40 per cent of the glabrescent form, with numerous intermediates. In the opinion of many authors, including Hultén (1943), Raup (1959), and Argus (1964), these variants are not worthy of taxonomic recognition and are considered here to be synonyms of *S. bebbiana.*

In 1950 Hiitonen decided, without presenting adequate documentation, that *S. bebbiana* should be regarded as a subspecies of its European relative and proposed the name *S. depressa* ssp. *rostrata.* In 1967 Hultén concurred in this judgement, also without providing explanation or justification. The proposal of this combination is unfortunate, for it further compounds a nomenclatural tangle which must be resolved. Linnaeus described *S. depressa* in 1753 and compared it with *S. caprea*; in the second edition of *Species Plantarum* (1763) he modified this view and decided that it was a variety of *S. lanata* (Skvortsov 1966). According to Enander (1907) the type material



Salix scouleriana Barr. *Argus 6086* (left) and *Argus 6840* (right) of Linnaeus' *S. depressa* is a mixture of *S. caprea* and some hybrid form (Schneider 1917). It was Fries (1832) who used the name *S. depressa* to refer to the taxon under consideration. However, since he did not see the Linnaean type material, Skvortsov (1966) argues that we have no more reason for accepting Fries' view than that Linnaeus. In 1806 *S. starkeana* was described by Willdenow. This was followed by the description of two additional, but synonymous, names, *S. livida* Wahlenberg (1812) and *S. vagans* Andersson (1858). The name *S. starkeana* was accepted for the European taxon by Rechinger in *Flora Europea* (1964) and by Skvortsov in *Flora Arctica URSS* (1966). In addition, they both recognized a second taxon with a northern European-Asian distribution, *S. xerophila,* which differs from *S. starkeana* in that it has more pubescent leaves and branchlets, longer petioles (6-8 mm long) and pubescent filaments (Rechinger 1964). Skvortsov observes that these two taxa are connected by transitional forms, but prefers to treat *S. xerophila* as a separate species. He notes further that *S. xerophila* is very closely related, if not identical, to *S. bebbiana* — an observation with which I am in complete agreement. I have examined material of *S. xerophila* from Asia (in CAN and US) and I cannot distinguish it from the North American *S. bebbiana.* I therefore suggest that these names be treated as synonyms. However, this suggestion would not solve the problem of the correct application of *S. depressa* or of the taxonomic relationship between *S. bebbiana* and *S. starkeana.* I am inclined to recognize *S. starkeana* and *S. bebbiana* as distinct species in conformity with some recent taxonomic treatments (Rechinger 1964; Skvortsov 1966, 1968).

---

33. *SALIX SCOULERIANA* Barr.

S. scouleriana Barr. *in* Hook. Fl. Bor.-Am. 2: 145. 1838. (Type: *Scouler s.n.* photo and frag. A).

S. brachystachys var. *scouleriana* Anderss. *in* DC. Prodr. 16 (2): 224. 1868. *S. flavescens* var. *scouleriana* Bebb, Bot. Gaz. 7: 129. 1882.

S. flavescens Nutt. N. Am. Sylva 1: 65. 1843, non Host, 1828. *S. nuttallii* Sarg. Gard. and For. 8: 463. 1895. *S. scouleriana* var. *flavescens* Henry, Fl. So. B.C. 98. 1915.

S. stagnalis Nutt. N. Am. Sylva 1: 66: 1842.

S. brachystachys Benth. Pl. Hartw. 336. 1857. *S. scouleriana* var. *brachystachys* M.E. Jones, Willow Fam. 15. 1908.

S. capreoides Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 120. 1858. *S. flavescens* var. *capreoides* Bebb, Gard. and For. 8: 373. 1895. *S. nuttallii* var. *capreoides* Sarg. Gard. and For. 8: 463. 1895.

S. scouleriana var. *poikila* Schneid. J. Arnold Arb. 2: 12. 1920. *S. scouleriana* f. *poikila* Schneid. J. Arnold Arb. 3: 76. 1922.

S. scouleriana var. *coetana* Ball, J. Wash. Acad. Sci. 24: 73. 1934. (Type: *Thompson 9297,* A).

S. scouleriana var. *thompsoni* Ball, J. Wash. Acad. Sci. 24: 75. 1934.

Description of species

Shrubs 2-7 m tall or trees 10-20 m tall and up to 7.2 dm in diameter at base; branches dark reddish brown to yellow brown, glossy, usually remaining pubescent for 2-3 years; branchlets greenish brown to brown, velutinous to villous-lanate. Leaves obovate, elliptic to narrowly elliptic, the largest mature leaves 5-6.5-8 cm long, (1.3) 2-3 cm wide and (2.1) 2.4-3.3 (4.9) times as long as wide; apex acute to round with acute tip, acuminate in narrower leaves; base cuneate; margins usually entire and distantly glandular, to irregularly glandular serrulate or subcrenate, revolute; immature leaves velutinous to villous-lanate; the upper side of mature leaves pubescent, becoming glabrate, dark green and glossy, the lower side sericeous, sometimes sparsely so, with appressed white and/or ferruginous trichomes, sometimes sparsely to densely white villous, glaucous; petioles 5-10 mm long, 8-19 mm long on vigorous leaves, tawny and velutinous becoming reddish brown and sparsely pubescent; stipules minute to 0.8-3.5 mm long, 3.2-10 mm long on vigorous shoots, half ovate, glandular serrulate, dark green and glossy above, pubescent beneath. Aments precocious, often on short, leafy or bracteate, floriferous branchlets. Staminate aments 1.5-4 cm long, floriferous branchlets 0-3-7 mm long; stamens 2, filaments 5-6 mm long, glabrous to very sparsely pubescent at base; anthers 0.5-1 mm long. Pistillate aments 1.5-5 cm long, floriferous branchlets 0.2-2.5-15 mm long; pistils 4-8.5 mm long, grey green, densely sericeous, capsules 4.5-11 mm long, beak long and slender, tawny, sericeous, coma surrounding seeds often rusty coloured; styles 0.2-0.5 mm long; stigmas 0.6-1.2 mm long, 2-lobed, about 2 times as long as style; stipes 0.8-2 mm long, sericeous; nectaries 1, adaxial, 0.2-0.7 mm long, 0.33-0.5 times as long as stipe; bracts narrowly elliptic, apex acuminate, 2-4.5 mm long, dark brown to black, sometimes bicolour, villous on both sides with long straight trichomes about 2 times as long as bract.

Habitat

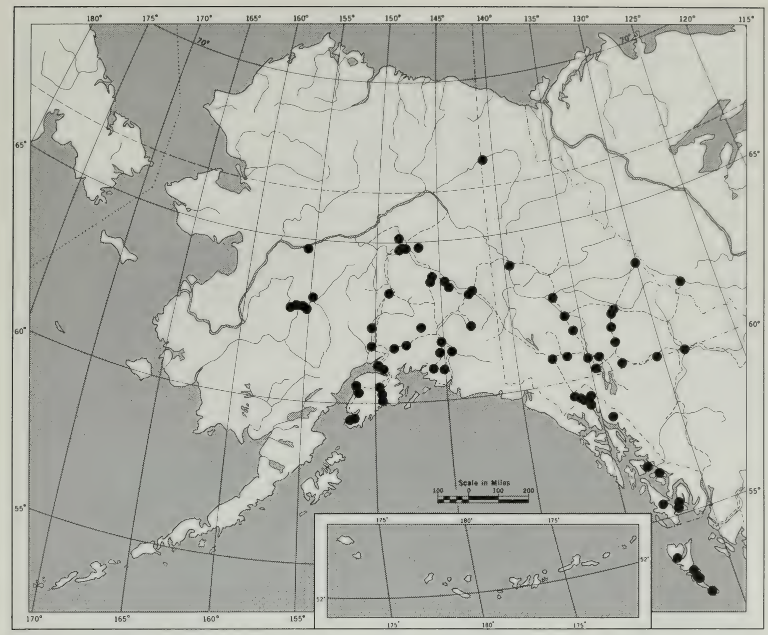
Dry *Pinus contorta* and *Picea mariana* forests; muskegs; mature woods at edges of rivers and lakes; *Salix* thickets; meadows; disturbed areas.

Range

Boreal: Central Alaska; Kenai Peninsula; southeastern Alaska; Yukon Territory; southward to British Columbia, California, and New Mexico; eastward in the boreal forest to Manitoba and South Dakota (Map 42).

Discussion

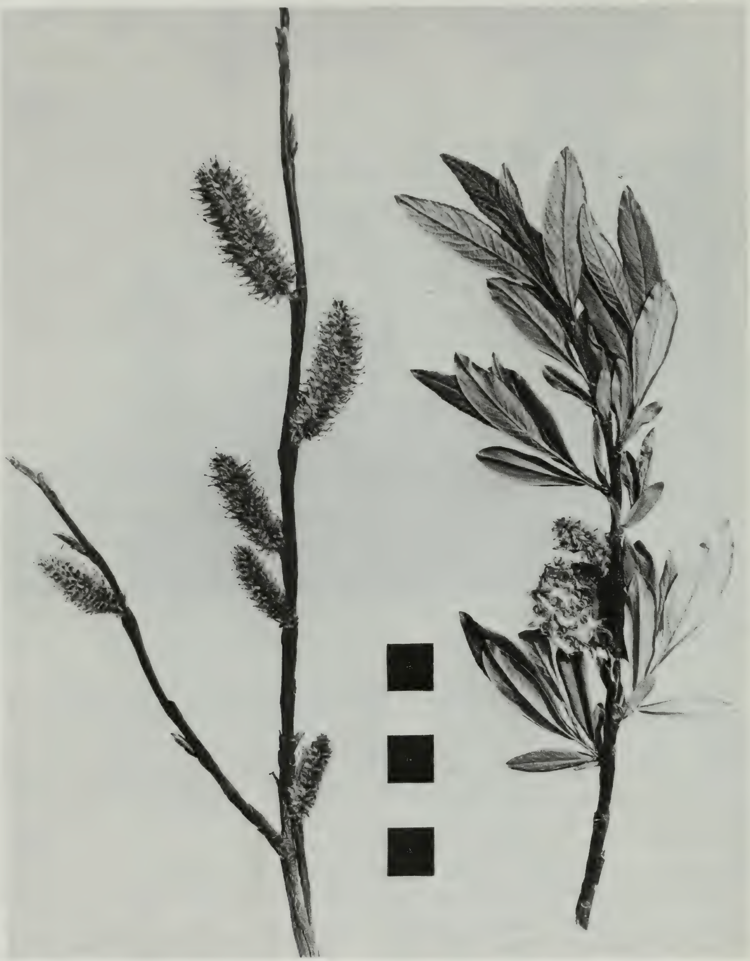
Salix scouleriana is a precocious flowering species characterized by velutinous branchlets, usually obovate leaves with appressed, white and ferruginous trichomes or densely white villous beneath; pistils long-beaked and stigmas about 2 times as long as the styles.



Map 42 *Salix scouleriana*

This species is part of a complex including the eastern North American *S. discolor* Muhl. and *S. humilis* Marsh., the Eurasian *S. caprea* L. and the European *S. coaetanea* Flod. It is possible that, as Cronquist (1964) states, "Monographic study may show these [*S. discolor* and *S. caprea*] to be geographic phases of a single species. . . ." However, I would urge the requisite "monographic study" be made before any new combinations are proposed. A disjunction exists in western Alaska and eastern Siberia between the ranges of *S. caprea* and *S. scouleriana*, so that evidence of intergradation will not be readily available and the taxa have different chromosome numbers; *S. caprea* is $2n = 38$ (Blackburn and Heslop-Harrison 1924) and *S. scouleriana* is $2n = 76$ (Suda and Argus 1968) or $2n =$ ca. 114 (Taylor and Mulligan 1968).

The pubescence on the underside of mature leaves is of two types. The most common type consists of glossy, sericeous pubescence composed of appressed white and ferruginous trichomes. The ferruginous trichomes are very conspicuous and give the leaves their characteristic "rusty" appearance. It has been observed that some ferruginous trichomes are glandular and that a reddish drop may form at their base, or that several trichomes may be matted together. Not all ferruginous trichomes are glandular and this observation requires further study. The second type consists of densely villous pubescence composed of curly, white trichomes and is the basis of the name var.



Salix planifolia Pursh ssp. *planifolia.* Flowering pistillate specimen, *Calder 24404* (left) and fruiting pistillate specimen, *Argus 5052* (right)

Table 15 Comparison table: *Salix scouleriana* and *S. sitchensis*

Characteristics	*scouleriana*	*sitchensis*
leaves	glaucous beneath	non-glaucous beneath
branchlets	tenacious and more sparsely pubescent	brittle and densely sericeous
stipule length	0.8-3.5(10) mm	minute to 0.4-1.5 mm
stamen number	2	1
style length	0.2-0.5 mm	0.5-0.8 mm
stigma length	0.6-1.2 mm	0.1-0.2 mm

poikila. This type of pubescence commonly occurs on leaves of sprout shoots or on shoots borne on this year's branchlets, and both pubescence types may occur on the same plant. Leaves with the densely white villous pubescence resemble *S. sitchensis,* and confusion may occur if only vegetative material is available. The two species may be distinguished as in Table 15.

Section 13. Arbuscella Ser. ex Duby

34a. *SALIX PLANIFOLIA* Pursh ssp. *PLANIFOLIA*

S. planifolia Pursh, Fl. Am. Sept. 2: 611. 1814.

S. phylicifolia L. ssp. *planifolia* Hiitonen, Mem. Soc. Faun. Fl. Fenn. 25: 82. 1950.

S. chlorophylla Anderss. Kg. Sv. Vet. Akad. Handl. 6: 138. 1867. (possibly *S. discolor,* at least in part).

S. monica Bebb, *in* S. Wats. Bot. Calif. 2: 90. 1879. (Type: *Bolander s.n.* F). *S. planifolia* var. *monica* Jeps. Man. Fl. Pl. Calif. 265. 1923. *S. chlorophylla* var. *monica* Flod. Sv. Vet. Akad. Ark. Bot. 29A: 33. 1939.

S. nelsonii Ball, Bot. Gaz. 40: 379. 1905. (as *nelsoni*). (Type: *Nelson 7580,* NY). *S. chlorophylla* var. *nelsonii* Flod. Sv. Vet. Akad. Ark. Bot. 29A: 34. 1939. *S. planifolia* var. *nelsonii* Ball ex E. C. Smith, Amer. Midl. Nat. 27: 246. 1942.

S. pennata Ball, Bot. Gaz. 60: 45. 1915. (Type: *Suksdorf 15,* US). *S. phylicifolia* var. *pennata* Cronquist, *in* Hitchcock, Cronquist, Ownbey and Thompson, Vas. Pl. Pacific NW. 2: 63. 1964.

Description of species

Shrubs 1-4 m tall; branches dark brown to reddish brown, glabrescent, sometimes glaucous, epidermis exfoliating; branchlets brownish to greenish brown, glossy, glabrous or densely villous to sparsely pubescent, sometimes glaucescent. Leaves elliptic to narrowly elliptic, the largest mature leaves 3.5-4.9

(6.5) cm long, 0.9-1.5 (2.2) cm wide and 3-4.7 times as long as wide; apex acute; base acute; margins subentire to glandular crenate, revolute especially near base; immature leaves reddish, sparsely pubescent or densely sericeous with white or white and ferruginous trichomes, non-glaucous at first but becoming progressively glaucous beneath from the apex; the upper side of mature leaves glabrescent, highly glossy and with impressed venation, the lower side sparsely pubescent with white or white and ferruginous trichomes, glaucous; petioles 3-7 (13) mm long, reddish or yellow; stipules narrowly elliptic, 0.8-2.8 mm long, margins glandular, glabrous. Aments precocious, sessile on branches or with 2-3 brown or greenish bracts at base. Staminate aments 1.5-3 (5) cm long; stamens 2, filaments about 7-8 mm long, glabrous; anthers 0.5-0.6 mm long. Pistillate aments 1.5-6 cm long; pistils 2-2.8 mm long, tawny, densely sericeous with white and/or ferruginous trichomes, capsules (3.2) 5.5-6 mm long, tawny or greenish, sparsely sericeous; styles 0.6-1.8 mm long; stigmas 0.4-0.5 (0.8) mm long, 2-4 linear lobes; stipes 0.5-0.6 mm long, pubescent; nectaries 1, adaxial, 0.5-0.6 mm long, equal to or up to 3 times as long as stipe; bracts oblong, apex acute to rounded, 1.2-2 mm long, black to dark brown, pubescent on both sides with long straight trichomes about 2 times the length of the bract or rarely with shorter, curly trichomes.

Habitat

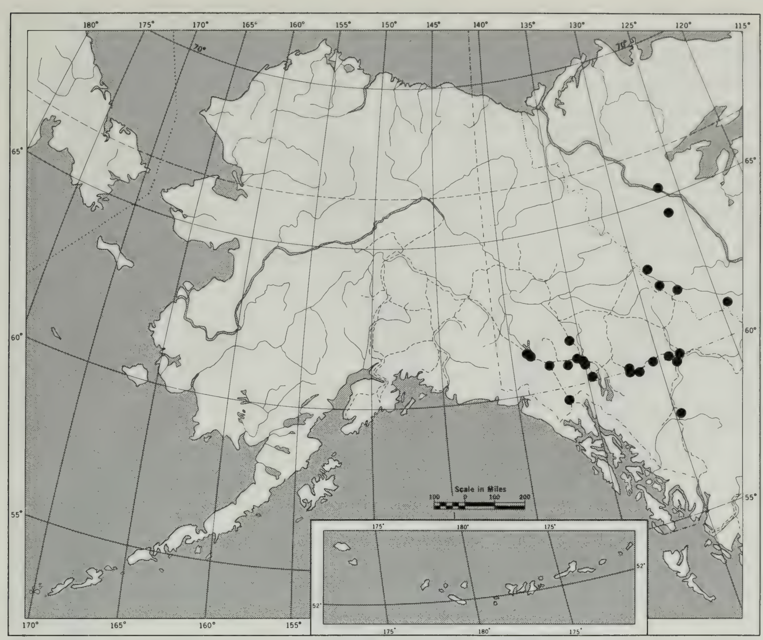
Common in *Salix* thickets and in *Carex* fens at edges of streams and lakes; *Picea mariana* muskegs; openings in *P. glauca* forests; arctic tundra in eastern Canada.

Range

Boreal, Arctic: Southern Yukon Territory, adjacent Northwest Territories and British Columbia; eastward through the boreal forest and the southern Canadian Arctic to Newfoundland; southward in eastern British Columbia to Alberta, California, and New Mexico; eastward to northeastern United States (Map 43).

Discussion

Hultén's report (1968, Map 47) of *Salix planifolia* ssp. *planifolia* (as *S. phylicifolia* ssp. *planifolia*) from Alaska and the Mackenzie Delta region conflicts with the maps presented here. The Alaska records may be based on misidentified material of ssp. *pulchra.* However, it is possible that ssp. *planifolia* occurs in southeastern Alaska, between the Chugach Mountains and the Alaska Range, and should be sought there. I have seen extensive collections of *S. planifolia* from the Mackenzie Delta region and they are all referable to ssp. *pulchra.*



Map 43 *Salix planifolia* ssp. *planifolia*

34b. *SALIX PLANIFOLIA* ssp. *PULCHRA* (Cham.) Argus var. *PULCHRA*

S. planifolia ssp. *pulchra* (Cham.) Argus, Can. J. Bot. 47: 798. 1969.

S. pulchra Cham. Linnaea 6: 543. 1831.

S. phylicoides Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 123. 1858.

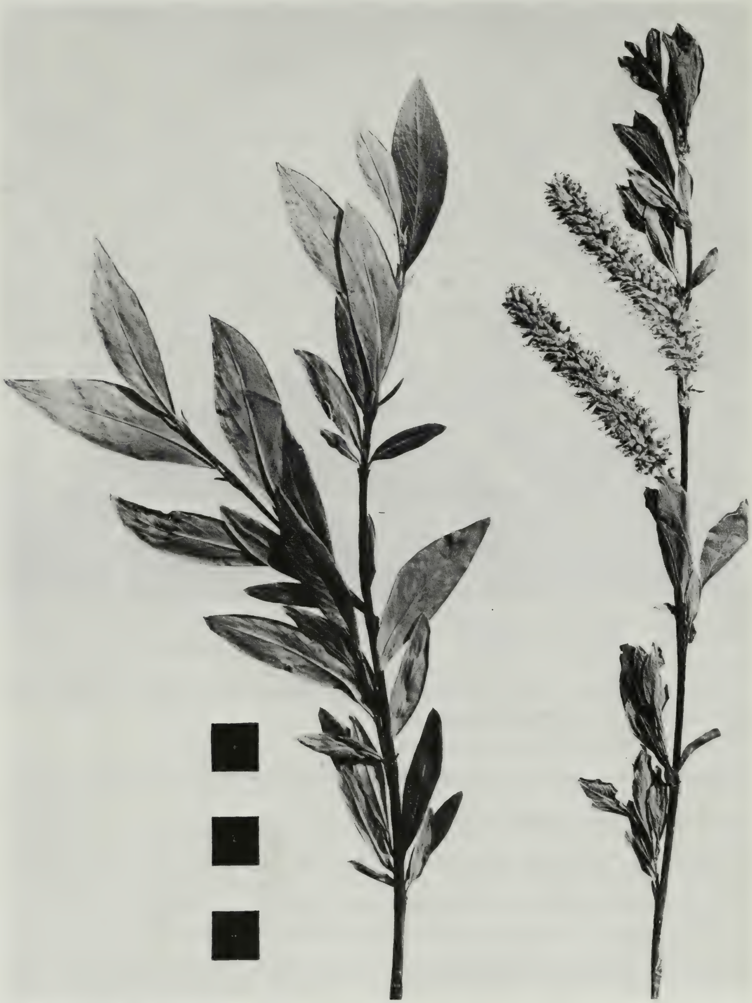
S. fulcrata Anderss. β *subglauca* Anderss. *in* DC. Prod. 16(2): 244. 1868.
S. phylicifolia var. *subglauca* Boivin, Natur. can. 93: 437. 1966.

S. pulchra var. *looffiae* Ball, Madroño 6: 228. 1942. (Type: *Looff 1191,* US).

S. pulchra var. *palmeri* Ball, Madroño 6: 229. 1942. (Type: *Palmer 121,* US).

S. parallelinervis Flod. Sv. Vet. Akad. Ark. Bot. 20A: 35. 1939. *S. pulchra* ssp. *parallelinervis* A. Skvortsov Bull. Mosk. Obshch. Isp. Pri. Biol. 66: 31. 1961.

S. pulchra ssp. *kalarica* A. Skvortsov Bull. Mosk. Obshch. Isp. Pri. Biol. 66: 31. 1961. (probably = ssp. *pulchra*).



Salix planifolia Pursh ssp. *pulchra* (Cham.) Argus var. *pulchra*. *Pegau 94-68* (left) and *Suda 248-66* (right)

Description of subspecies

Low shrubs prostrate to 0.1-1.8-3 m tall; branches glossy; branchlets rarely glaucescent; buds sometimes large and beaked. Leaves sometimes marcescent, commonly rhombic but often narrowly elliptic, elliptic or sometimes obovate, the largest mature leaves (2.2) 3.2-6 (7.5) cm long, (0.8) 1-2.3 (2.6) cm wide and (1.7) 2-3.6 (4.7) times as long as wide; apex acute to obtuse, sometimes acuminate; base acute to cuneate; margins entire or subentire sometimes glandular or glandular crenate; immature leaves glabrous or sparsely pubescent with white or ferruginous trichomes especially on midrib and toward margins; the upper side of mature leaves dark green and glabrous, the lower side glabrous; petioles 2.8-8-10 (15) mm long, glabrous or sparsely pubescent adaxially; stipules linear (2.4) 3.6-14 (32) mm long, equalling or exceeding petiole, distantly glandular serrulate, glabrous, glaucous abaxially, often persistent for 2-4 years. Anthers 0.4-0.6-0.8 mm long. Pistillate aments 1.2-2.5 cm long in flower, 2.5-8 cm long in fruit, floriferous branchlets absent but rachis sometimes elongated and bracteate with several dark brown or, rarely, green bracts; stipes 0.2-0.8 mm long; nectaries 0.4-1.2 mm long, yellow or reddish, 2-3 times as long as stipe.

Habitat

Common throughout arctic and alpine tundra; open *Picea mariana*-lichen woodlands; *Salix-Betula* thickets on stream and lake margins; open *Picea glauca-Betula glandulosa* woodlands.

Range

Arctic, subarctic, alpine: General throughout Alaska; uncommon in Yukon Territory and the Tanana River lowlands; absent from Aleutian Islands and southern coastal Alaska from Prince William Sound eastward; Asia: widespread from Novaya Zemlya to Chukotsk Peninsula (Map 44).

34c. *SALIX PLANIFOLIA* ssp. *PULCHRA* var. *YUKONENSIS* (Schneid.) Argus

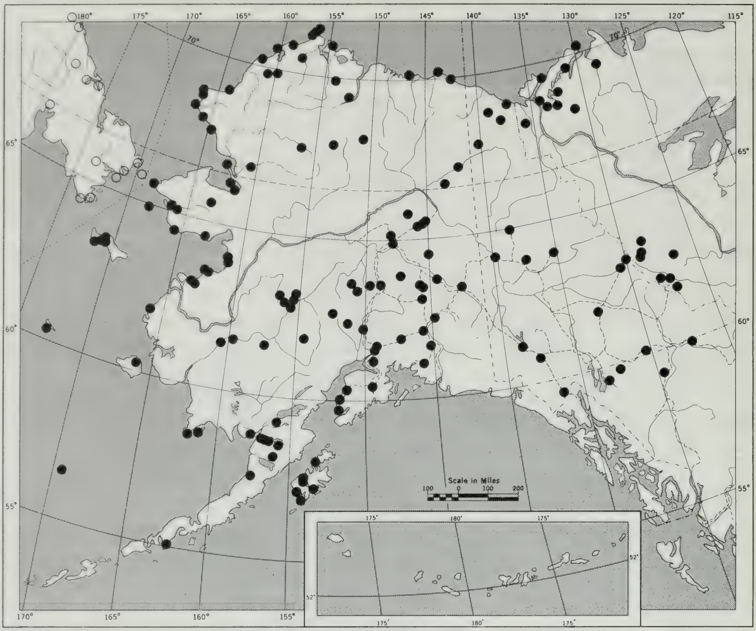
S. planifolia ssp. *pulchra* var. *yukonensis* (Schneid.) Argus, Can. J. Bot. 47: 800. 1969.

S. pulchra var. *yukonensis* Schneid. J. Arnold Arb. 1: 72. 1919. (Type: *Eastwood 373,* A).

S. anadyrensis Flod. Sv. Vet. Akad. Ark. Bot. 25A: 9. 1933. *S. pulchra* var. *anadyrensis* A. Skvortsov, Bull. Mosk. Obshch. Isp. Pri. Biol. 66: 30. 1961.

Description of variety

Differs from var. *pulchra* in shrubs 0.6-1.8-3 (4.5) m tall; branches glabrescent or with patches of villous indumentum, sometimes with persistent pubescence on 3-year-old stems; branchlets light brown, densely white grey



Map 44 *Salix planifolia* ssp. *pulchra* var. *pulchra.* Circles based on Skvortsov, 1966, as *S. pulchra*

villous to sparsely pubescent, indumentum of white or sometimes white and ferruginous trichomes. Mature leaves usually pubescent on midrib with white or ferruginous trichomes; petioles persistently villous-tomentose with white and ferruginous trichomes; stipules glabrous or pilose.

Habitat

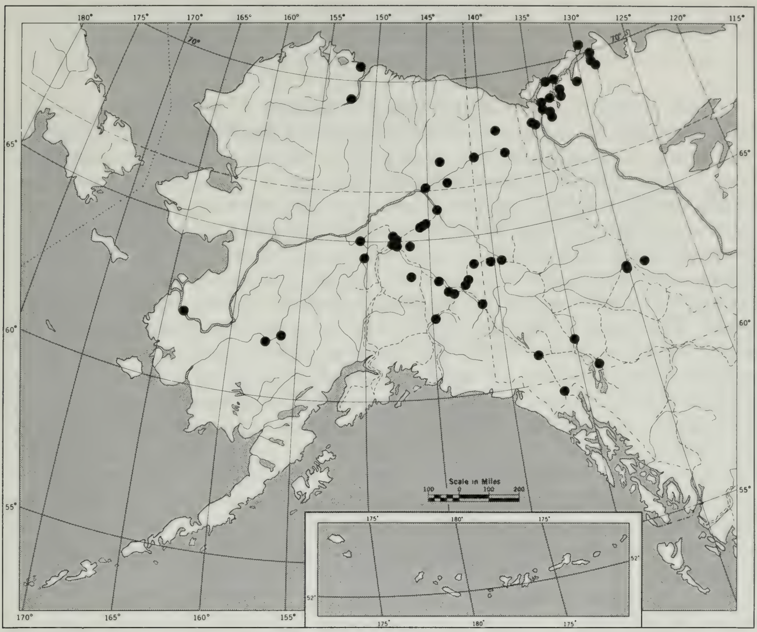
Salix thickets at edges of lakes and streams; *Picea mariana* muskegs; margins of *Carex* fens; *Betula papyrifera-Alnus crispa* woods; shrub-heath alpine tundra.

Range

Boreal, alpine: Yukon, Kuskokwim and Tanana Rivers and their tributaries; Umiat; northern Yukon to Anderson River, Northwest Territories; southern Yukon and adjacent British Columbia; Asia: (as var. *anadyrensis*) middle Indigirka River; middle and lower Kolmia, Anadyr, and Penzhina Rivers (Skvortsov 1961) (Map 45).

Discussion

In North America *Salix planifolia* consists of two races, a transcontinental ssp. *planifolia* and a northwestern ssp. *pulchra.* The races overlap and inter-



Map 45 *Salix planifolia* ssp. *pulchra* var. *yukonensis*

grade in southern Yukon and western Northwest Territories. These races are related to the European *S. phylicifolia* and to *S. bicolor,* which is restricted to the mountains of Europe from central Germany to northern Spain and Bulgaria, but is absent from the Alps (Rechinger 1964). The areas of ssp. *pulchra* and *S. phylicifolia* overlap in northern Russian between the Yenisei and Pechora Rivers (Skvortsov 1966, Maps 30 and 31). Within the Asian *S. pulchra* Skvortsov (1961) recognized two subspecies, ssp. *parallelinervis* and ssp. *kalarica* and one variety, var. *anadyrensis.* I have seen specimens of the variety that were determined by Skvortsov and I consider them to be equivalent to var. *yukonensis.* The ssp. *parallelinervis,* which is characterized by smaller stipules, the presence of a short floriferous branchlet and lateral veins of leaves paralleling the margin, seems to me to be confluent with ssp. *pulchra* and, at the most, deserving of varietal status; however, no new combination is proposed here. Similarly, ssp. *kalarica,* which occurs between the Stanovhighlands and Dshugdshuria and is characterized by large leaves which are pilose beneath, small stipules and yellow shoots, could be assigned varietal status. I have not seen specimens of this taxon and therefore no new combination is proposed.

The relationship between the North American *S. planifolia* and the European *S. phylicifolia* requires detailed consideration. There are three facets to the question: the first is the uncritical proposal of new taxa; the second is the failure to recognize the relationship between *S. planifolia* and *S. pulchra*; the third is a consideration of differences between *S. planifolia* and *S. phylicifolia.*

In 1950 Hiitonen proposed the new combination *S. phylicifolia* ssp. *planifolia,* giving as an explanation Heribert-Nilsson's observation that *S. phylicifolia* consisted of a number of diverse forms, some of which diverge more from *S. phylicifolia* than does the North American *S. planifolia,* and then concluding that the North American taxon must therefore be a subspecies. Unfortunately, this decision to form a new combination was not based on a thorough study of the problem, and once a new name is in the literature, it assumes an importance of its own and may be accepted by later authors who assume that the combination was the result of careful study. Cronquist (1964) and Hultén (1967 and 1968) have accepted the Hiitonen name, and others, including Boivin (1967) and Breitung (1957), came to this conclusion independently. However, no one has presented evidence in support of his opinion. The willingness to accept these taxa as conspecific was probably aided by Raup's citation (1959) of two specimens reputedly representing *S. phylicifolia,* one from Pine Creek, Yukon, and a second from Aniak, Alaska. I have restudied the first specimen (*Raup & Raup 11785,* ALA 20026) and it is simply *S. glauca*; the second specimen was not available at the Gray Herbarium and I cannot comment on it. As far as I can determine, there are no authentic specimens which support the occurrence of *S. phylicifolia* in North America.

In the European literature *S. phylicifolia* and *S. pulchra* are generally considered to be distinct species, distinguishable mainly on the basis of the very prominent, linear stipules of *S. pulchra.* Rechinger (1964) separated the two on the basis of habit and habitat with *S. pulchra* included with, "low shrubs of Arctic or high mountains; catkins terminal or sub-terminal" and *S. phylicifolia* included with, "trees and shrubs usually of lower latitudes or lower altitudes; catkins lateral". Furthermore, he includes *S. pulchra* with *S. arctica* in subgenus *Salix* and *S. phylicifolia* in subgenus *Caprisalix*, a separation which is clearly incorrect and which has tended to obscure the relationship which evidently does exist. Skvortsov (1961) does comment that within the area of overlap between *S. phylicifolia* and *S. pulchra* intermediate types do occur, but he was able to distinguish the two on the basis of stipule size and did not see fit to combine the two taxa. However, he did include them in the same section (*Arbuscella* Duby).

In North America the morphological extremes of ssp. *planifolia* and ssp. *pulchra* may be distinguished on the basis of characteristics included in Table 16. In southern Yukon and western Northwest Territories there are intermediates which cannot be assigned to one taxon or the other, and when stipule length is compared with petiole length in a large number of specimens, the overlap and intergradation are graphically evident (Fig. 5). While the generalization holds that the absolute and relative stipule lengths are diagnostic, there are also many exceptions. On the Haines Highway in northwestern British Columbia, in the region between the Three Guardsmen Pass and the Chilkat Pass, there is a series of intergrading populations of ssp. *planifolia* and ssp. *pulchra* in which considerable variation in stipule size and

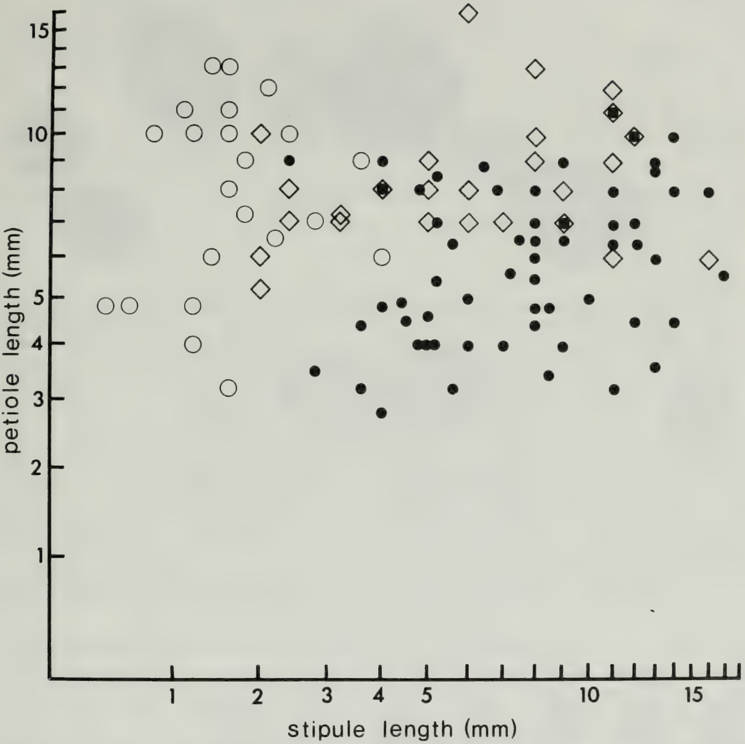


Fig. 5 A comparison of stipule and petiole length variation in *Salix planifolia* ssp. *planifolia* (circles), ssp. *pulchra* var. *pulchra* (dots) and ssp. *pulchra* var. *yukonensis* (diamonds). In these taxa there is no correlation between stipule length and petiole length. Generally, ssp. *planifolia* and ssp. *pulchra* var. *pulchra* can be distinguished on the basis of stipule length, but there is some overlap which is further accentuated by var. *yukonensis,* which may have stipules 2-3 mm long. The scales are logarithmic.

presence is manifest. There are "typical" ssp. *pulchra* with large, linear stipules (*Argus & Chunys 6786, 6761*), others with one large, linear stipule per leaf or none (*6819*), others without stipules in 1967 but with old, persistent stipules from 1966 (*6792*), and yet others that are exstipulate (*6790, 6771*). The latter specimens are indistinguishable from ssp. *planifolia* except that the immature leaves are not as prominently pubescent as is usually the case in this taxon. Such diversity strongly suggests a hybrid swarm, which is further evidence of the closeness of the relationship between these taxa.

The patterns produced by a paper chromatographic analysis of crude leaf extracts (largely phenolic compounds) are very similar, and both taxa have

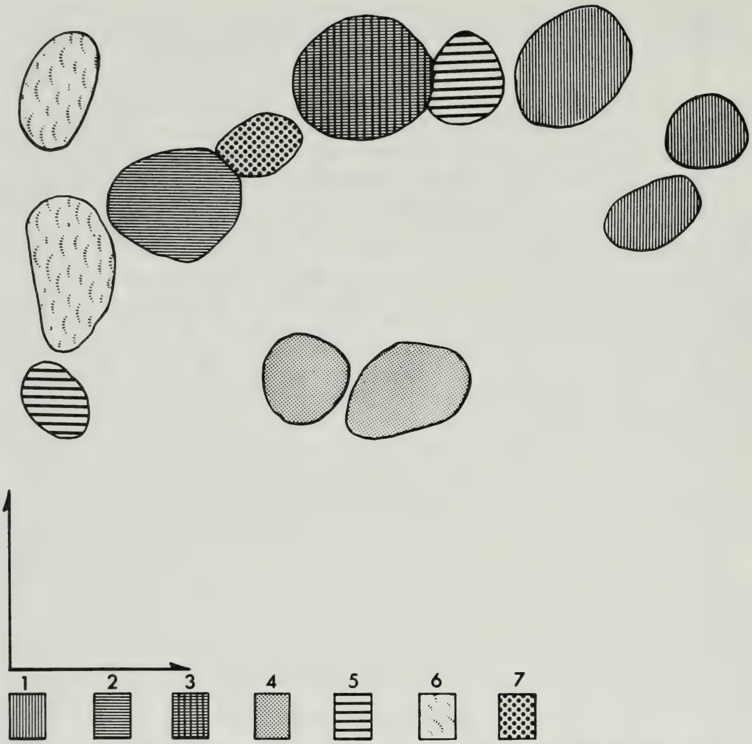


Fig. 6 A representative chromatographic pattern produced by paper chromatography of crude methanolic-HCl leaf extracts in *Salix planifolia* ssp. *planifolia* and ssp. *pulchra*. Colour code — (Ultraviolet light: Ultraviolet light after fuming with NH_4) — (1) blue: blue, (2) moderately absorbing: yellow, (3) intensely absorbing: intensely absorbing, (4) faintly absorbing: pink, (5) faintly absorbing: moderately absorbing, (6) pink: pink, (7) moderately absorbing: absent.

the very prominent absorbing spot near the centre (Fig. 6). Also, the chromosome number is the same for both taxa, $2n = 76$ (Suda and Argus 1968, 1969; Löve and Löve 1964). The report by Löve (1954) of $2n = 152$ for *Salix planifolia* ssp. *planifolia* is not included here because it conflicts with later reports (including numerous unpublished counts by Suda) and because the voucher specimen is unavailable for verification of the identification.

Thus far I have demonstrated that ssp. *planifolia* and ssp. *pulchra* are so closely related that they intergrade within the area of overlap and may be regarded as races of the same species. The next question is, what is the relationship of these taxa to *S. phylicifolia*. In the first place it is significant that European taxonomists have long regarded these two taxa as distinct and that some would even place them into different subgenera (Rechinger 1964).

Table 16 Comparison table: *Salix planifolia* ssp. *planifolia* and ssp. *pulchra*

Characteristics	ssp. *planifolia*	ssp. *pulchra*
stipules	narrowly elliptic, 0.8-2.8 mm long, shorter than the petioles	linear, (2.4) 3-6-14 (32) mm long, generally equalling or exceeding the petioles
immature leaves	sparsely to densely sericeous	sparsely pubescent or glabrous

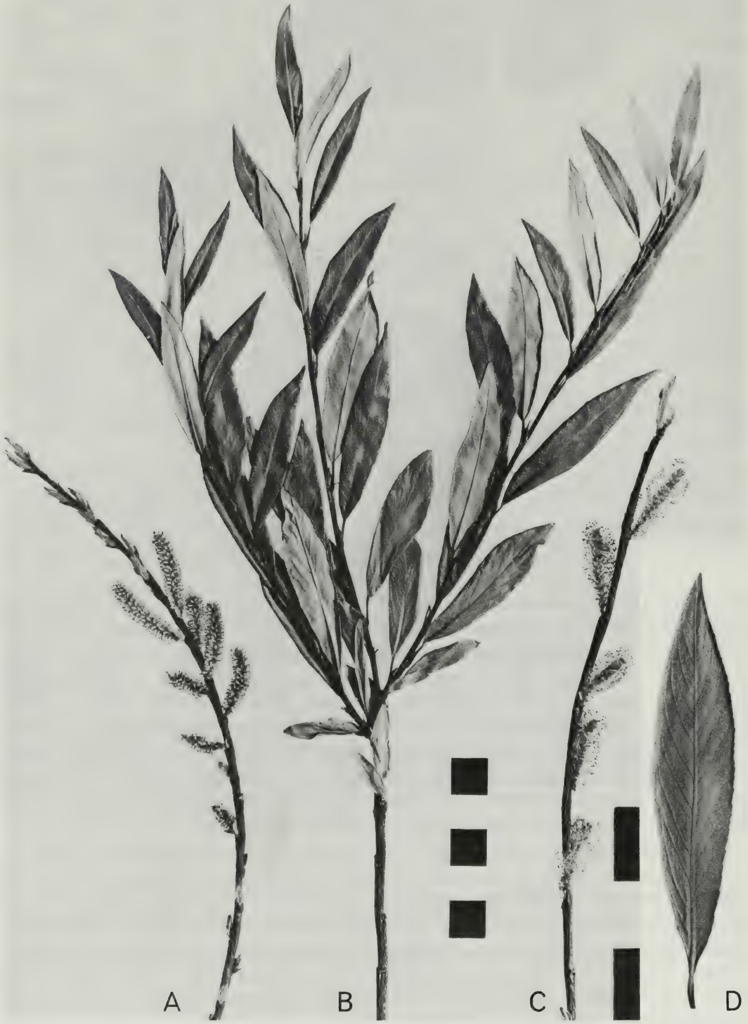
Table 17 Comparison table: *Salix planifolia* ssp. *planifolia,* ssp. *pulchra* and *S. phylicifolia*

Characteristics	ssp. *planifolia*	ssp. *pulchra*	*phylicifolia*
floriferous branchlets	absent or the rachis may be elongated and bare or with 2-3 green bracts	absent or the rachis may be elongated and bare or with 2-3 green bracts	6-20 mm long, leafy
leaf margins	subentire to glandular crenate	entire to subentire, rarely glandular or glandular crenate	glandular serrulate
stipule length	0.8-2.8 mm	(2.4) 3.6-14 (32) mm	absent to minute, up to 3 mm long
petiole length	3.7 (13) mm	2.8-8-10 (15) mm	6-15 mm

Secondly, the chromosome number of *S. phylicifolia* is $2n = 114$ (Federova-Sarkissova 1946; Hakansson 1933; Heribert-Nilsson 1935) and $2n = 88$ (Blackburn and Heslop-Harrison 1924; Wilkinson 1944). This is in contrast to $2n = 76$ for ssp. *planifolia* and ssp. *pulchra.* Finally, morphologically these taxa may be distinguished on the basis of a number of characteristics (Table 17). Admittedly, these characteristics are variable and exceptions are not unknown. However, since there are some characteristics which can serve to distinguish these taxa, and since there is a difference in chromosome number, there does seem to be ample reason for considering them as two species, at least until the group can be studied monographically.

Salix planifolia ssp. *pulchra* var. *yukonensis* can be distinguished from var. *pulchra* on the basis of a number of characteristics which were previously outlined, the most important of which is the densely white grey villous to sparsely pubescent branchlets. Similar variation in branchlet pubescence occurs in ssp. *planifolia,* but it lacks the geographical integrity of var. *yukonensis* and has therefore not been recognized taxonomically. To my knowledge there is no evidence that var. *yukonensis* is a hybrid or is influenced by hybridization, as suggested by Hultén (1968).

There are several varieties which have been based on differences in leaf shape, including var. *looffiae* and var. *palmeri.* However, in the light of the wide variation in leaf shape, often the product of the environment, these varieties do not deserve taxonomic recognition.



Salix arbusculoides Anderss. (A) Pistillate specimen, *Argus 4753*, (B) Vegetative specimen, *Viereck 8054*, (C) Staminate specimen, *Viereck 7892*, (D) Leaf, *Viereck 8054*

35. *SALIX ARBUSCULOIDES* Anderss.

S. arbusculoides Anderss. Kg. Sv. Vet. Akad. Handl. 6: 147. 1867.

S. arbusculoides var. *glabra* Anderss. Kg. Sv. Vet. Akad. Handl. 6: 148. 1867.

S. humillima Anderss. *in* DC. Prodr. 16 (2): 248. 1868.

Description of species

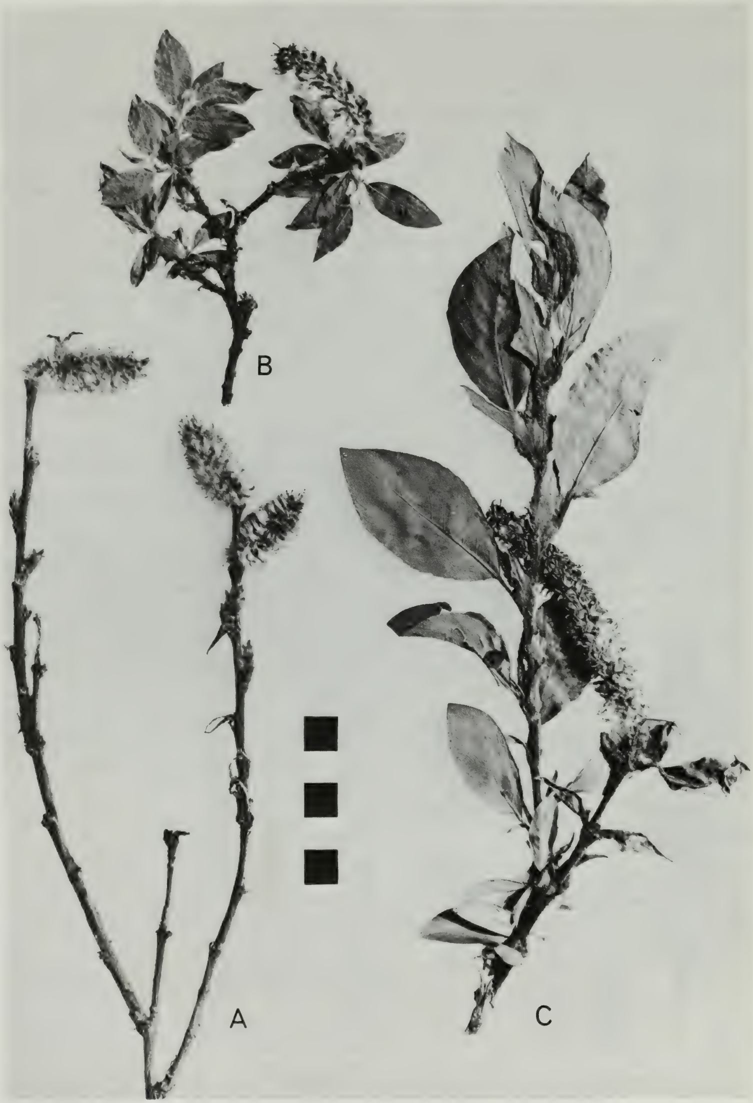
Shrubs 1-4 m tall or trees 5-6 m tall, basal diameter up to 2.8 dm; branches slender, reddish brown, glossy, sometimes thinly glaucous, epidermis exfoliating; branchlets sparsely velutinous, indumentum of short erect or sometimes curly trichomes. Leaves narrowly ovate to very narrowly ovate or elliptic, the largest mature leaves (3.8) 6-7 (7.8) cm long, (0.7) 1-1.5 (1.8) cm wide and 3-6.5 times as long as wide; apex acute to narrowly acute or obtuse; base acute; margins glandular serrulate, sometimes distantly so; the upper side of mature leaves glossy and glabrous, the lower side sericeous with short, white or rarely ferruginous trichomes appressed and oriented toward apex, rarely glabrescent; petioles (3) 5-8 (11) mm long, reddish or yellowish; stipules 0.9-2.4 mm long, margins revolute, glandular, a white secretion often accumulating and drying at the base. Aments coetaneous or subprecocious, subsessile or on short, floriferous branchlets. Staminate aments 1.8-2.5 cm long, floriferous branchlets about 2 mm long and bearing several bract-like leaves; stamens 2, filaments about 3-4.8 mm long, glabrous, distinct; anthers about 0.5 mm long. Pistillate aments 2-7.5 cm long, loosely flowered with gaps between the "whorls" or densely flowered, floriferous branchlets 0-5 mm long; pistils 3-4.5 mm long, sericeous, capsules 4-5 mm long, sparsely sericeous with white and ferruginous trichomes; styles 0.3-0.5 mm long; stigmas 0.2-0.4 mm long, 4-lobed; stipes 0.6-0.9 mm long, velutinous; nectaries 1, adaxial, 0.6-0.8 mm long, rod-like, equal to or slightly exceeding stipe; bracts oblong, apex obtuse or rounded, 0.8-1.2 mm long, pubescent on both sides with curly or long straight trichomes.

Habitat

Stream banks; openings in *Picea glauca-Betula* forests; muskegs; *Salix* thickets at the edge of arctic and alpine tundra.

Range

Boreal: Common throughout central Alaska, Yukon Territory and adjacent Northwest Territories; not reaching the Pacific Coast; extending eastward throughout the boreal forest to Hudson Bay; southward in the eastern Rocky Mountains to northeastern British Columbia and Alberta (Map 46).



Salix lanata L. ssp. *richardsonii* (Hook.) A. Skvortsov. (A) Flowering specimen, *Little 18248*, (B) *Argus 5192*, (C) *Argus 616*

Discussion

Salix arbusculoides is a common forest species characterized by narrowly elliptic leaves, distinctly glandular serrulate on the margins, glabrous above and sericeous beneath with short, straight, white or ferruginous trichomes oriented toward the apex. Occasional specimens have glabrescent or glabrous leaves and have been named var. *glabra* Anderss., but the taxonomic significance of this variation is doubtful. The styles are very short and the nectaries equal or slightly exceed the short stipes.

The Siberian *Salix boganidensis* Trautvetter (1847) seems to be closely related to *S. arbusculoides*, and further study may show that they are conspecific.

Section 14. Lanatae Koehne

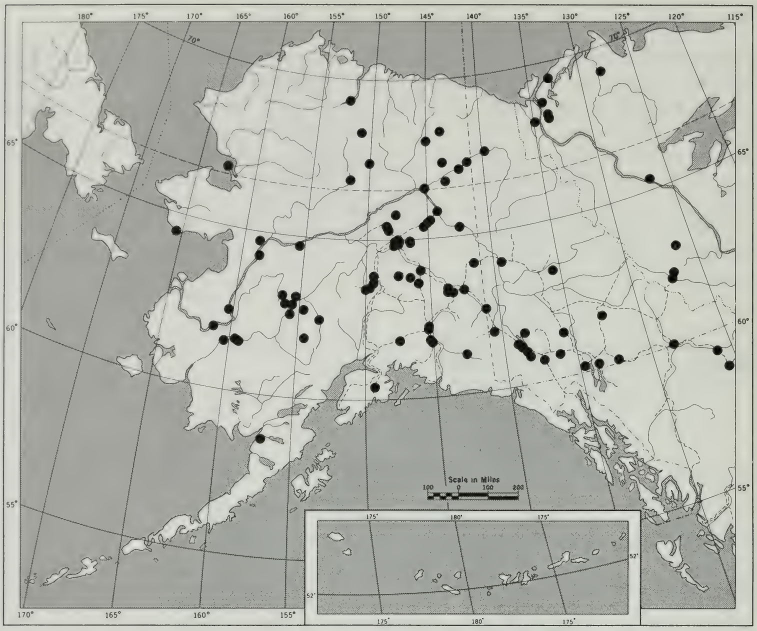
36. *SALIX LANATA* L. ssp. *RICHARDSONII* (Hook.) A. Skv.

S. lanata L. ssp. *richardsonii* (Hook.) A. Skvortsov, *in* Tolm. Fl. Arct. URSS 5: 103. 1966.

S. richardsonii Hook. Fl. Bor.-Am. 2: 147. 1838.

Description of subspecies

Shrubs 0.6-3 (7) m tall; branches reddish brown, glossy, pubescent with persistent, greyish, coarse, spreading or matted indumentum; branchlets densely white lanate. Leaves elliptic, narrowly ovate to broadly obovate, the largest mature leaves (3) 3.8-6.8 (8) cm long, (1.1) 1.5-4 (7.3) cm wide and 1.1-2-2.8 times as long as wide; apex acute; base obtuse or acute to rounded, rarely inequilateral; margins entire or subentire to glandular serrulate or irregular crenate; immature leaves sometimes pubescent with ferruginous trichomes; the upper side of mature leaves glabrous or sparsely villous, the lower side glabrous or sparsely villous, glaucous, sometimes pale green; petioles 5-18 mm long, more or less lanate, yellow, sometimes purplish; stipules 6-17 (25) mm long, linear to ovate, base broad and sometimes irregularly lobed, margins glandular serrulate or prominently and irregularly toothed, apex inequilaterally attenuate, usually persistent for several years. Aments precocious, sessile on branches of previous year. Staminate aments 2.5-4.5 cm long; stamens 2, filaments 8-8.5 mm long, glabrous; anthers 0.6-0.7 mm long; nectaries 1, adaxial, 1-1.2 mm long. Pistillate aments 4.5-9.5 cm long, rachis densely white lanate at base; pistils 2.5-3.6 mm long, green and glabrous, capsules 4.5-7.2 mm long; styles 1.2-1.6 (3.2) mm long; stigmas 2-4-lobed, 0.4-1.2 mm long; stipes 0.2-0.5 mm long, pubescent; nectaries 1, adaxial, 0.4-0.8 mm long, 2-3 times as long as stipe; bracts narrowly obovate, apex acute or obtuse, 2-2.6 mm long, dark brown or rarely blackish, pubescent both sides with long, wavy, white or rarely yellow trichomes 2 times as long as bract.



Map 46 *Salix arbusculoides*

Habitat

Salix thickets on alluvial gravels or sands; thickets including *Picea mariana* and *Betula glandulosa* on mountain slopes; wet *Carex aquatilis* meadows.

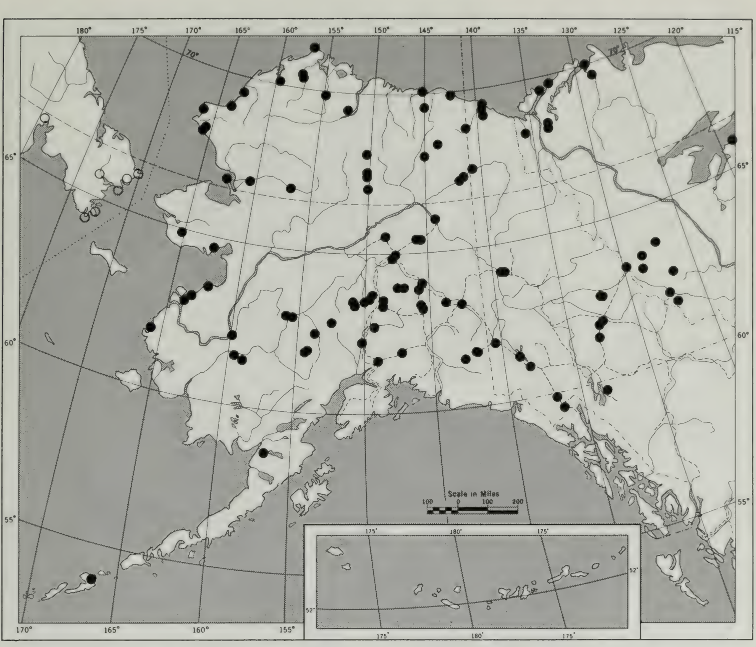
Range

Arctic, alpine: Throughout Alaska and Yukon Territory; absent from the Aleutian Islands and the Pacific coastal region; rare near the Arctic Coast of Alaska; southward to northern British Columbia; eastward across the Northwest Territories to Hudson Bay and Baffin Island (Map 47).

Discussion

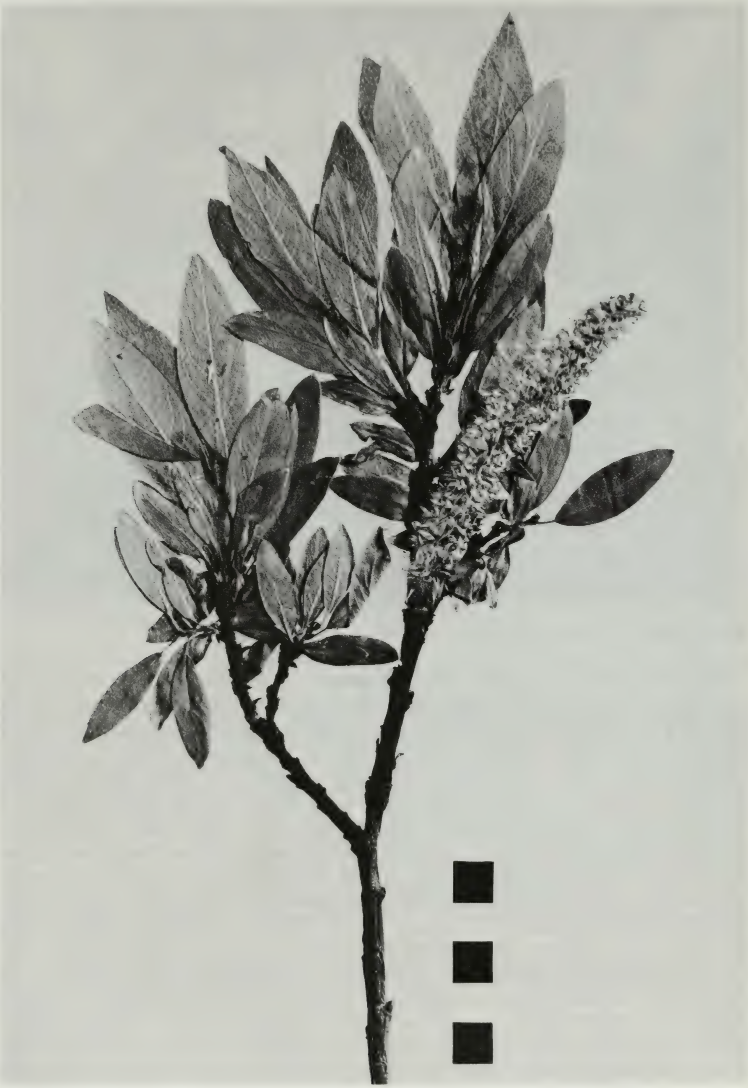
Salix lanata ssp. *richardsonii* is characterized by persistent stipules which are broad at the base and have an inequilateral, attenuate apex, precocious aments, glabrous pistils and nectaries 2-3 times as long as the stipes. This taxon is similar morphologically to *S. barclayi* and *S. planifolia* ssp. *pulchra* from which it may be distinguished by the characteristics in Table 18.

The possibility of hybridization with *S. barclayi* has been discussed under that species. Hybridization with *S. alaxensis* var. *alaxensis* has been suggested as an explanation for the densely pubescent capsules on a specimen from Cape Thompson (*Belson 87*).



Map 47 *Salix lanata* ssp. *richardsonii.* Circles based on Skvortsov, 1966

Salix lanata ssp. *richardsonii* is the western North American-eastern Asian race of the Eurasian *S. lanata.* It is distinguished from ssp. *lanata* by its glabrous to glabrescent, smaller leaves and generally by aments with a whitish rather than yellowish pubescence. There is some variation in these characteristics even within North American material, and plants with distinctly pubescent mature leaves have been seen from Meade River (*Argus & Chunys 5265*), Kotzebue (*Argus & Chunys 5972*) and the lower Yukon River (*Rouse 37*). Specimens with yellowish bract pubescence have been seen from the Sheenjek River (*Kessel S4*), Kiana (*Clark, 4 June 1937*), Kennecott (*Argus B3*), Eureka Roadhouse (*Anderson 8448*) and Mile 132, Canol Road, Yukon Territory (*Porsild & Beitung 9460*). Skvortsov (1966) regards these taxa as races because they intergrade in the region between the Lena and Enisey Rivers. They are evidently closely related, and it does seem to be appropriate to treat them as races of a single species. The eastern Canadian Arctic *S. calcicola* had also been reduced to a subspecies of *S. lanata* (Hultén 1967), thus organizing this circumpolar complex into three races. Hultén (1967), in making the latter combination, simply states by way of an explanation, "*S. lanata, S. richardsonii* and *S. calcicola* together form a circumpolar area of closely related taxa best regarded as races of one species." I am in agreement with these decisions, for they coincide with my impressions of these taxa.



Salix barrattiana Hook. *Argus 6920* (branch) and *Argus 644* (ament)

Table 18 Comparison table: *Salix lanata* ssp. *richardsonii, S. barclayi* and *S. planifolia* ssp. *pulchra*

Characteristics	*lanata* ssp. *richardsonii*	*barclayi*	*planifolia* ssp. *pulchra*
stipules	persistent for several years	non-persistent	often persistent for 2-4 years
stipule shape	linear to ovate, broad at base, apex inequilateral	ovate to narrowly elliptic	linear, apex equilateral
flowering time	precocious	coetaneous	precocious
floriferous branchlets	none	present	none
bracts	dark brown to blackish	light brown to dark brown or bicolour	dark brown to blackish
immature leaf pubescence	white or ferruginous trichomes	only white trichomes	white or ferruginous trichomes
nectary length	2-3 times stipe	0.5 times stipe	2-3 times stipe
stipe length	0.2-0.5 mm	0.4-1.4 mm	0.2-0.8 mm
leaf shape	elliptic, narrowly ovate or broadly obovate	elliptic, obovate or rarely narrowly elliptic	rhombic to narrowly elliptic, elliptic or obovate
pistils	glabrous	glabrous	densely white sericeous
bract pubescence	white or yellow trichomes	white trichomes	white trichomes
leaf base	obtuse, acute to rounded	rounded, rarely subcordate or acute	acute to cuneate

37. *SALIX BARRATTIANA* Hook.

S. barrattiana Hook. Fl. Bor.-Am. 2: 146. 1838. (Type: *Drummond 650,* NY).

S. barrattiana α (var.) *latifolia* Anderss. *in* DC. Prod. 16 (2): 274. 1868.

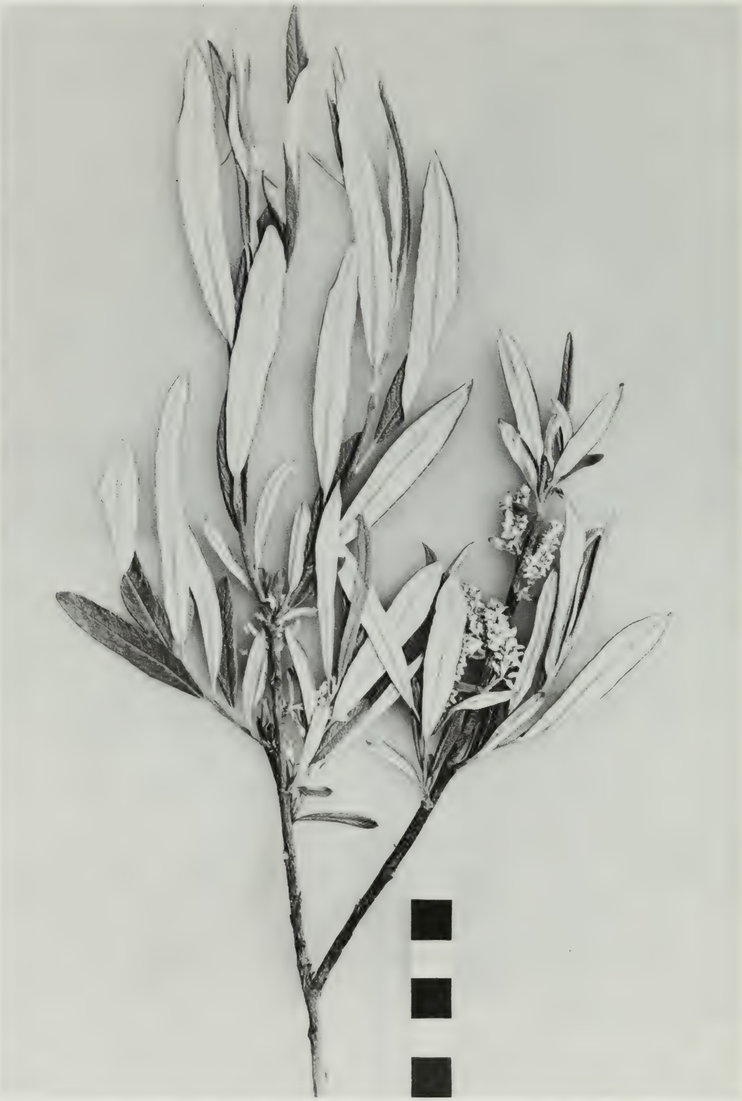
S. barrattiana β (var.) *angustifolia* Anderss. *in* DC. Prod. 16 (2): 274. 1868.

S. albertana Rowlee, Bull. Torr. Bot. Club 34: 157. 1907.

S. barrattiana var. *marcescens* Raup, Sargentia 6: 157. 1947.

Description of species

Low, often depressed, alpine shrubs, 0.3-1 m tall, forming mats up to 3-4 m in diameter; branches gnarled, reddish brown, glossy and pubescent; branchlets with short internodes, coarsely villous, buds oily. Leaves elliptic to obovate or narrowly obovate, the largest mature leaves 3.7-7.5-9.5 cm long, 1-1.6-2.9 cm wide, 2.2-4.2 (5) times as long as wide; apex acute; base acute or obtuse; margins entire or glandular to very finely glandular serrulate;



Salix candida Flügge ex Willd. *Argus 4868* the upper side of mature leaves sparsely pubescent and glossy, the lower side white or grey sericeous-lanate, the leaves crowded on the short branchlets; petioles 4-10-15 mm long; stipules broadly ovate, about 5 mm long, margins glandular and oily. Aments precocious, sessile on branches of previous year. Staminate aments 3-5 cm long; stamens 2, filaments 5-6 mm long, glabrous; anthers 0.4-0.6 mm long. Pistillate aments 4.5-11 cm long; pistils 2.5-3 mm long, densely grey white sericeous, capsules 4.5-6 mm long, sparsely sericeous; styles 0.6-1.6 mm long; stigmas 0.2-0.3 mm long, 4-lobed; stipes 0.2-0.6 mm long, sparsely pubescent to glabrous; nectaries 1, adaxial, 0.5-1.2 mm long, longer than stipe; bracts narrowly oblong, apex acute to rounded, 2.8-3 mm long, black to dark brown, pubescent with long straight trichomes which exceed bract by about 3 mm.

Habitat

River bottoms; gravel stream channels; hillsides; meadows; wet tundra in the mountains.

Range

Alpine, Arctic: Eastern Brooks Range; Alaska Range; mountains of southern Yukon and adjacent Northwest Territories; southward to southwestern Alberta, British Columbia, and northwestern Montana (Map 48).

Discussion

Salix barrattiana is a distinctive alpine species characterized by forming low thickets of grey, erect stems, leaves grey, sericeous-lanate which are crowded on branchlets with short internodes and with conspicuously oily buds and stipules. The latter characteristic, which was first described by Porsild (1951), is very prominent although the nature of the oily substance has yet to be determined.

This species is apparently related to *S. lanata* ssp. *richardsonii* from which it is readily distinguished by its oily buds and stipules, densely grey white sericeous pistils and more pubescent leaves.

Section 15. Villosae Rouy

38. *SALIX CANDIDA* Flügge ex Willd.

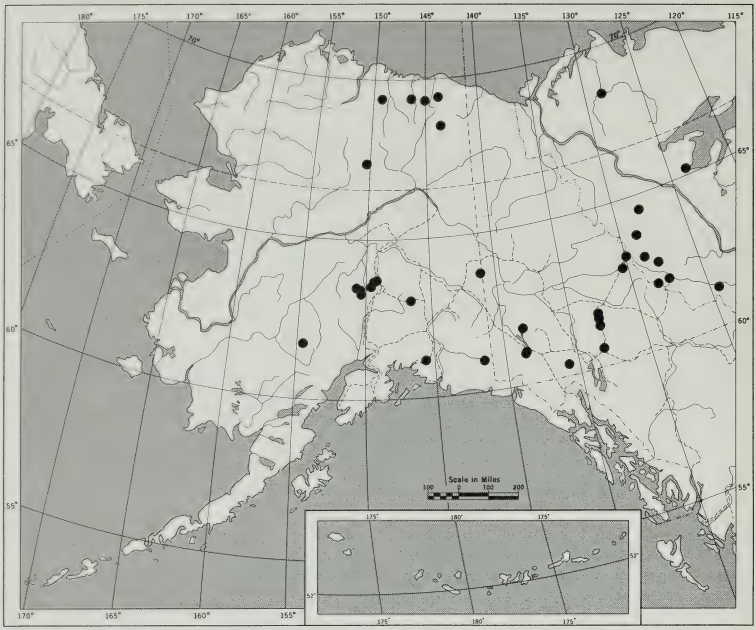
S. candida Flügge ex Willd. Sp. Pl. 4: 708. 1806.

S. candidula Nieuwl. Amer. Midl. Nat. 3: 225. 1914.

S. candida var. *denudata* Anderss. *in* DC. Prodr. 16 (2): 278. 1868. *S. candida* f. *denudata* Rouleau, Natur. can. 71: 266. 1944.

Description of species

Shrubs 0.3-3 m tall; branches dark brown, glabrescent; branchlets densely lanate to floccose, rarely sparsely pubescent. Leaves narrowly elliptic to narrowly ovate, the largest mature leaves 5-8 cm long, 0.8-1.8 cm wide and



Map 48 *Salix barrattiana*

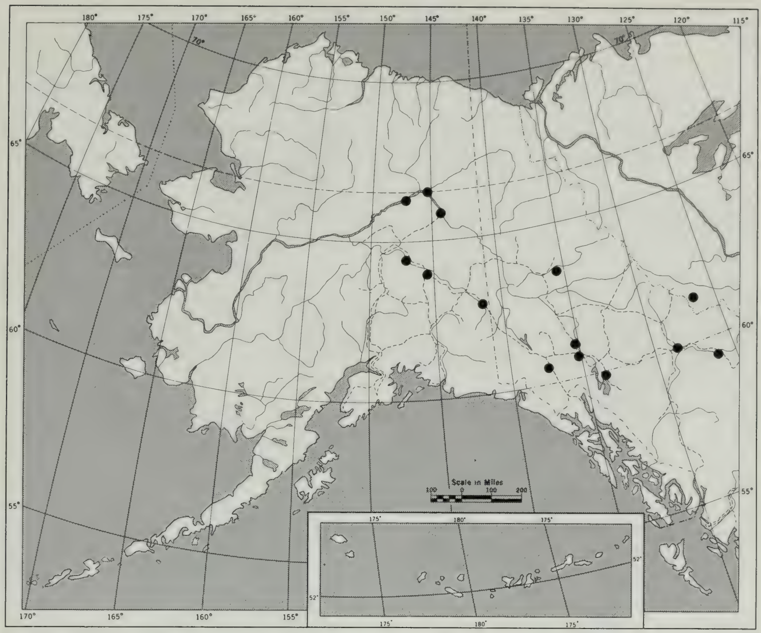
3.3-6.8 times as long as broad; apex acute; base acute; margins subentire, often distantly glandular, revolute; the upper side of mature leaves floccose to glabrescent, drying dark green or brown, the veins impressed, the lower side densely dull white lanate and floccose, the midrib prominent and yellowish; petioles 3-9 mm long, light brown and pubescent; stipules narrowly ovate, 2-3 mm long, lanate. Aments coetaneous, on short, leafy, floriferous branchlets. Staminate aments 1-1.5 cm long, subsessile, floriferous branchlets 3-4 mm long; stamens 2, filaments 4-5 mm long, glabrous, distinct or slightly connate at base; anthers 0.5-0.6 mm long. Pistillate aments 2.2-3 (5) cm long, floriferous branchlets 2-7 mm long; pistils 4-6 mm long, densely dull white lanate, capsules glabrescent or sparsely lanate; styles 0.3-1 mm long, red in life; stigmas about 0.2-0.3 mm long; stipes 0.1-1.2 mm long, lanate; nectaries 1, adaxial, red in life, 0.4-1 mm long, 0.5-0.75-1 times as long as stipe; bracts narrowly oblong, apex rounded, 1.2-1.5 mm long, pale to dark brown, pubescent on both sides.

Habitat

Occasional in wet, usually alkaline, habitats including: *Carex-Betula glan-*

Range

Boreal: East central Alaska; Fort Yukon; Tanana River southeast of



Map 49 *Salix candida*

dulosa fens; *Larix laricina* fens; *Betula glandulosa-Salix* thickets at edges of ponds and on river terraces.

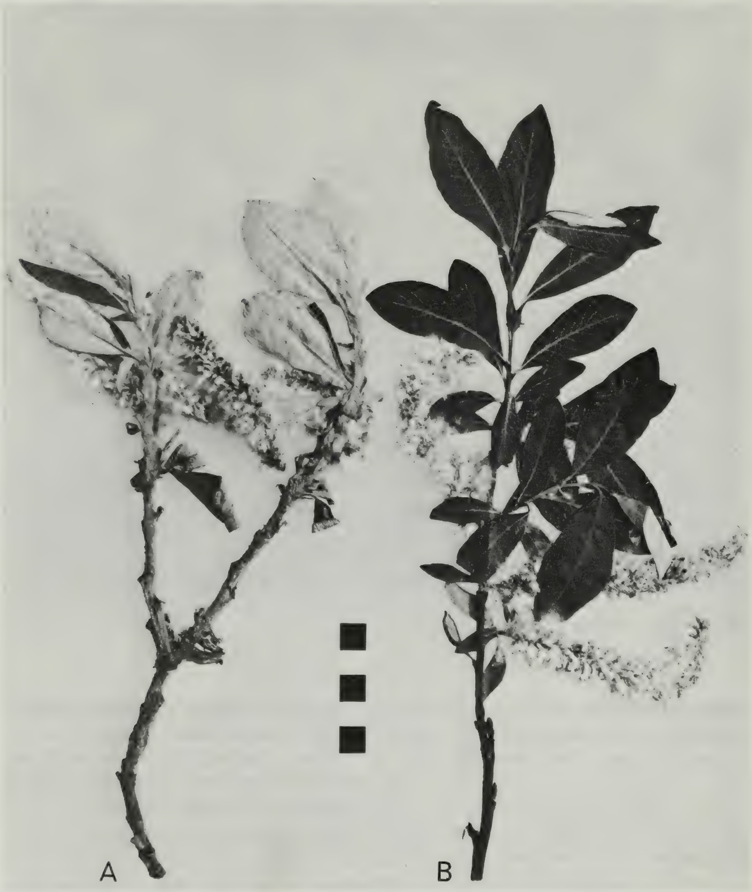
Fairbanks, Alaska; Mayo, Whitehorse, Watson Lake, Yukon Territory; southward and eastward through the boreal forest and northern prairies of Canada and northern United States (Map 49).

Discussion

Salix candida is characterized by narrowly elliptic leaves, densely dull lanate beneath and dark green or brownish above with dull white floccose pubescence, and densely lanate branchlets and pistils.

This species reaches the northwestern end of its range in central Alaska where its occurrence is sporadic.

It is related to *S. alaxensis*, which it sometimes resembles morphologically (*see* that species), and to the eastern Siberian and central Asian species *S. krylovii* Wolf with which it may be conspecific.



Salix alaxensis (Anderss.) Cov. (A) Variety *alaxensis, Argus 5580*, (B) Variety *longistylis* (Rydb.) Schneid., *Argus 6495*

39a. *SALIX ALAXENSIS* (Anderss.) Cov. var. *ALAXENSIS*

S. alaxensis (Anderss.) Cov. Proc. Wash. Acad. Sci. 2: 280. 1900.

S. speciosa Hook. and Arn. *in* Hook. Fl. Bor.-Am. 2: 145. 1838, non Host. 1828. (Type: *Richardson 80 & 81,* GH). *S. speciosa β* (var.) *alaxensis* Anderss. *in* DC. Prodr. 16 (2): 275. 1868.

S. alaxensis var. *obovalifolia* Ball, J. Wash. Acad. Sci. 28: 443. 1938. (Type: *Dutilly 445,* US).

Description of species

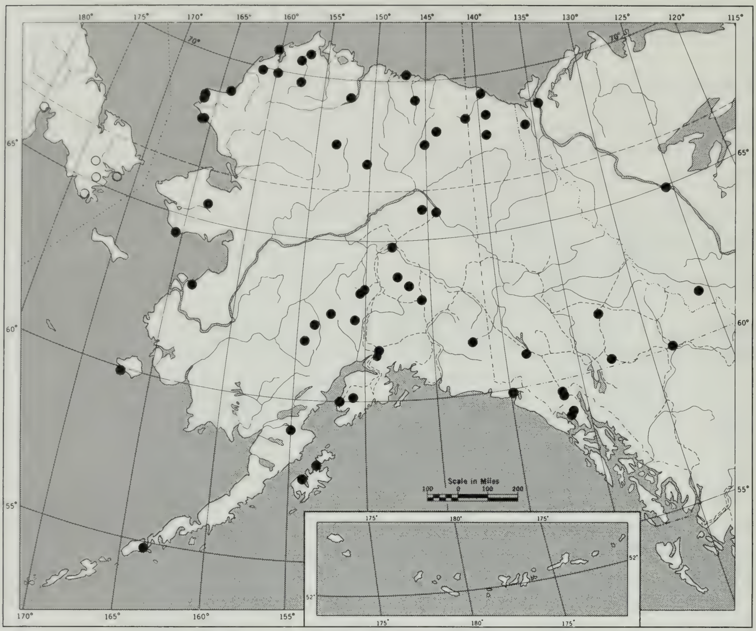
Shrubs 0.3-4 m tall; branches dark brown to chestnut brown with more or less persistent grey villous-lanate indumentum; branchlets densely white or yellowish villous-lanate with long straight and short curly trichomes; buds villous. Leaves narrowly ovate to oblong or obovate to narrowly obovate, the largest mature leaves 5-10.8 cm long, 1.5-3.5 cm wide and 2.1-3.8 times as long as wide; apex acute; base narrowly cuneate; margins revolute, entire, sometimes glandular and undulating; the upper side of mature leaves bright green sometimes drying brownish, floccose to glabrescent, the lower side densely white lanate; petioles (3) 5-15 (20) mm long, yellowish, tomentose or glabrescent, in about 33 per cent the petiole base is inflated around the bud; stipules 4-15 (20) mm long, linear, pubescent as the leaves, glandular. Aments precocious or subprecocious, sessile on branches of previous year. Staminate aments 3-3.5 cm long; stamens 2, filaments about 7 mm long, glabrous, distinct or connate; anthers 0.6-0.9 mm long. Pistillate aments 6-15 cm long; pistils about 1.5 mm long, green, sparsely pubescent, capsules about 4-5 mm long, tawny and glabrescent; styles 1.3-2.8 mm long; stigmas 0.5-1.8 mm long; stipes 0-0.3-0.4 mm long, lanate to sparsely pubescent; nectaries 1, adaxial, 0.6-1 mm long, 1-1.33-2 times as long as stipe; bracts ovate, apex acute or obtuse, 1.5-2.5 mm long, dark brown to black, villous on both sides with long straight trichomes about 2 times as long as the bract.

Habitat

Gravel bars and terraces of rivers, streams, and lakes; alpine meadows.

Range

Arctic, alpine and boreal: Throughout Alaska; absent in most of the Aleutian Islands, some Bering Sea islands, and in southeastern Alaska south of Glacier Bay; throughout Yukon Territory; British Columbia; eastward across the Canadian Arctic; south in the Rocky Mountains to Jasper National Park; Asia: Yenisei River; eastward to the Chukotsk Peninsula; southward to Lake Baikal (Map 50).



Map 50 *Salix alaxensis* var. *alaxensis*. Circles based on Skvortsov, 1966, as *S. alaxensis*

39b. *SALIX ALAXENSIS* var. *LONGISTYLIS* (Rydb.) Schneid.

S. alaxensis var. *longistylis* (Rydb.) Schneid. J. Arnold Arb. 1: 225. 1919.

S. longistylis Rydb. Bull. N.Y. Bot. Gard. 2: 163. 1901. *S. alaxensis* f. *longistylis* Boivin, Natur. can. 93: 436. 1966. *S. alaxensis* ssp. *longistylis* Hult. Ark. Bot. II. 7: 37. 1967.

Description of variety

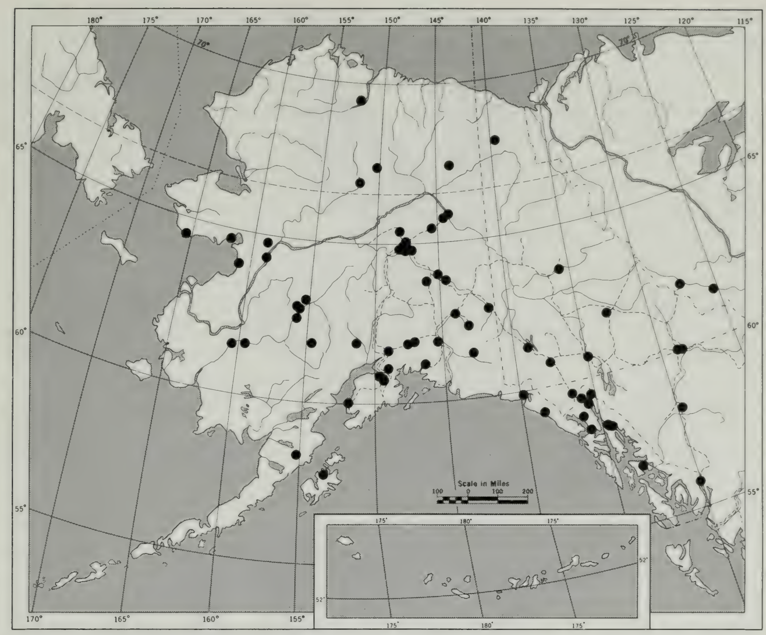
Differs from var. *alaxensis* in tall shrubs or trees 2-10 m tall, basal diameter about 3 dm; branchlets and branches glaucous, sometimes sparsely pubescent but soon glabrate; buds often small and the petiole base non-inflated; bract apex sometimes obtuse.

Habitat

Pioneer vegetation on river alluvium and glacial moraines; immature forests; subalpine thickets; alpine

Range

Boreal, Pacific coastal, alpine and Arctic : Central Alaska; southern Brooks Range; eastern Alaska Penin-



Map 51 *Salix alaxensis* var. *longistylis*

tundra; uncommon in arctic *Salix* thickets.

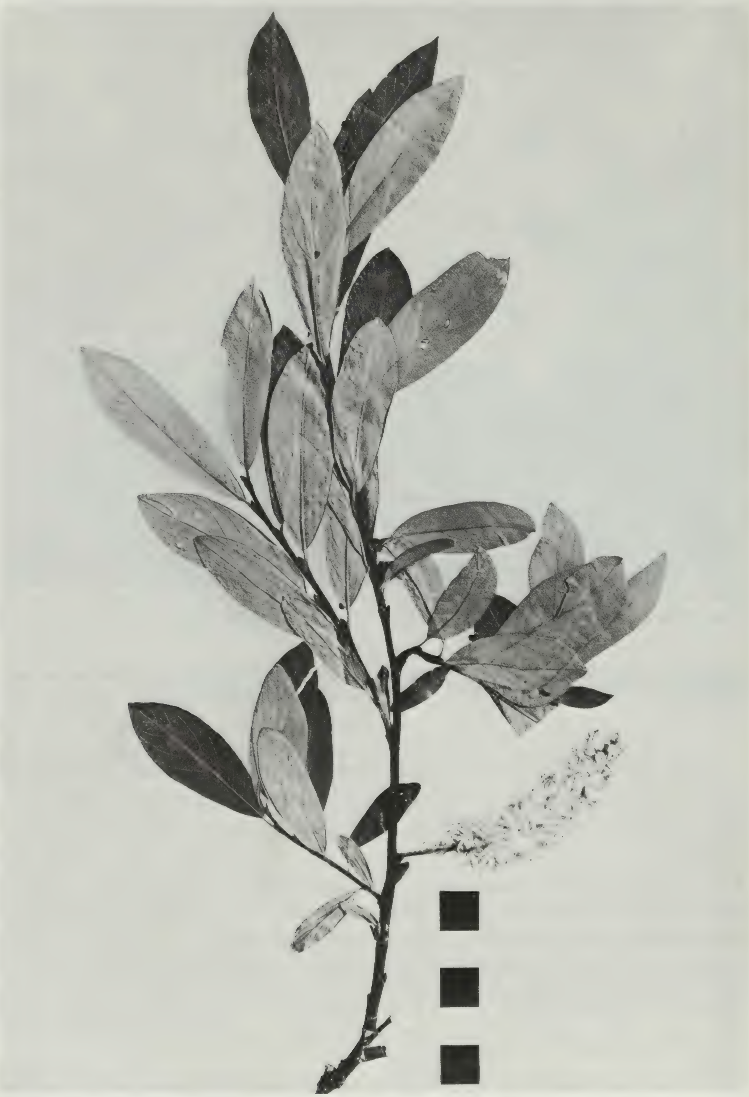
sula; Kenai Peninsula; Kodiak Island; mainland southeastern Alaska; Yukon Territory; eastward to Hudson Bay; south in Rocky Mountains to northern British Columbia; Asian distribution uncertain (Map 51).

Discussion

Salix alaxensis is characterized by narrowly ovate to obovate leaves, bright green above and densely white lanate beneath; the branchlets are densely villous-lanate (var. *alaxensis*) or sparsely pubescent and glaucous (var. *longistylis*). The flowering is precocious and the aments are large and bear sparsely pubescent pistils with styles up to 2.8 mm long. This species is related to *S. candida* from which it is distinguished by its larger stipules (4-20 mm long), long styles (1.3-2.8 mm long) and very short stipes (0-0.4 mm long).

The two varieties of *S. alaxensis* in Alaska and the Yukon, var. *alaxensis* and var. *longistylis,* have been variously treated taxonomically. In 1951 Porsild argued for specific status for both taxa, stating that they were distinct ecologically as well as morphologically; Hultén (1967) treated them as alti-

Plate XXXIX



Salix drummondiana Barr. *Argus 6924*

tudinal subspecies; Raup (1959) and others preferred to maintain them as varieties; Boivin (1966) reduced var. *longistylis* to a forma; and in 1966 Skvortsov treated them as one species and stated that the characteristics which distinguish var. *longistylis* occur at random in Asian populations.

Salix alaxensis var. *longistylis* may be distinguished from var. *alaxensis* by a series of characteristics listed above which, although useful in distinguishing the varieties, are highly variable in themselves and may be variously recombined with var. *alaxensis* characteristics. Branchlet pubescence and glaucescence are most important diagnostically, but at the same time are highly variable. Within a population at College, Alaska, all degrees of pubescence from densely villous to completely glabrous were observed. Similarly, variation in branchlet pubescence was noted in specimens from Old John Lake, Sheenjek River and Mount McKinley National Park. However, it is not simply branchlet pubescence that is characteristic of the taxa, but also the conspicuous glaucescence on the branchlets of var. *longistylis.* It has been assumed that this glaucescence does not occur in var. *alaxensis,* but this is difficult to affirm because of the densely villous pubescence covering the branchlets. Specimens of var. *alaxensis* from Ogotoruk Creek, Cape Beaufort, Seward Peninsula, Old John Lake and the Little Delta River that have had the pubescence partly worn off the stems reveal a glaucescence just as conspicuous as in var. *longistylis.* If both taxa have glaucous branchlets, then the difference is simply a matter of degree of pubescence, which has already been shown to be highly variable.

Enlarged winter buds and inflated petiole bases are also characteristic of var. *alaxensis.* These characteristics were the primary bases for the recognition of var. *obovalifolia,* which is treated here as a synonym of var. *alaxensis.* Although inflated petiole bases and large buds are common in var. *alaxensis,* and infrequently encountered in var. *longistylis,* they do occur in the latter variety. I have collected specimens of var. *longistylis* with inflated petiole bases at College, Alaska, and Peterson Creek, British Columbia, and I have seen other specimens with this characteristic from the Matanuska Valley.

A series of specimens of *S. alaxensis* collected by C. Rouse at Egavik on Norton Sound (ALA) show gradations from densely yellowish villous branchlets, large winter buds and inflated petioles (no. *16*) to sparsely pubescent, glaucous branchlets, large buds and inflated petioles (no. *18*), to sparsely pubescent, glaucous branchlets, small buds and uninflated petioles (no. *19*). Specimens such as nos. *16* and *18* have been determined as *S. alaxensis* var. *alaxensis* > *longistylis* to indicate their intermediate character (Map 3).

One of the major arguments for recognizing these taxa is their partial geographical and ecological separation. Var. *alaxensis* occurs in the Arctic and at somewhat higher elevations in the mountains than does var. *longistylis*; the latter taxon is more frequent throughout the boreal forest and does not extend into the Arctic. While I am unable to accept Skvortsov's view (1966) that the taxa are completely confluent, I also cannot accept them as distinct species. Since they are more or less confluent in some areas, and since the characteristics that distinguish them are variable and often recombined in intermediate specimens, they are best treated as varieties.

40. *SALIX DRUMMONDIANA* Barr.

S. drummondiana Barr. *in* Hook. Fl. Bor.-Am. 2: 144. 1838. (Type: *Drummond 672,* photo and frag. A).

S. bella Piper, Bull. Torr. Bot. Club 27: 399. 1900. *S. drummondiana* var. *bella* Ball, Amer. Midl. Nat. 45: 743. 1951.

S. subcoerulea Piper, Bull. Torr. Bot. Club 27: 400. 1900. (Type: *Cusick 1302,* US). *S. drummondiana* var. *subcoerulea* Ball, Amer. Midl. Nat. 45: 744. 1951.

S. pachnophora Rydb. Bull. Torr. Bot. Club 31: 403. 1904.

S. pellita auct. non Anderss.

Description of species

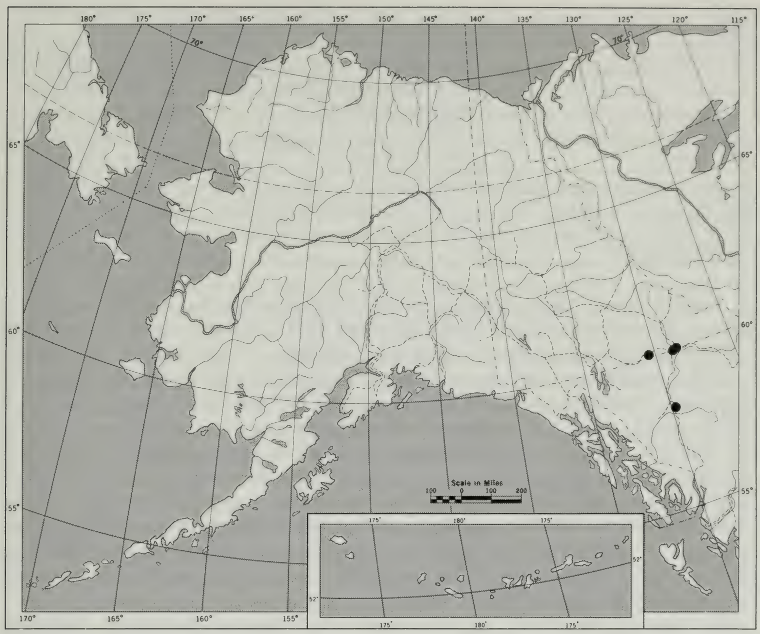
Shrubs 1-4 m tall; branches dark reddish brown, glabrous or glabrescent, glaucous, glossy and brittle; branchlets brownish green to reddish brown, glabrous or rarely sparsely pubescent, glaucous. Leaves elliptic, elliptic-obovate to narrowly elliptic-obovate, the largest mature leaves 4.2-8.5 cm long, 1.1-2.6 cm wide and 3.2-6.2 times as long as wide; apex acute; base acute; margins entire, distantly glandular dotted or glandular crenate, revolute; immature leaves densely white sericeous; the upper side of mature leaves dark green, sparsely pubescent with white or, rarely, ferruginous trichomes, semi-glossy, the lower side densely to sparsely sericeous with white or white and ferruginous trichomes, pale non-glaucous; midrib yellow and prominent; petioles 2-12 mm long, yellow to reddish; stipules narrowly elliptic (0.2) 1.2-3.2 (7.2) mm long, pubescent abaxially or entirely glabrous, margins glandular, deciduous. Aments precocious, sessile on branches and bearing from one to several dark brown bracts at base. Staminate aments 2-2.7 cm long; stamens 2, filaments about 6 mm long, glabrous, distinct or connate at base; anthers about 0.4-0.6 mm long; nectaries 1, adaxial, 0.4-0.6 mm long. Pistillate aments 2.5-8 cm long, rachis pubescent; pistils about 2.4 mm long, densely sericeous, capsules 2-5.6 mm long, greenish tawny and sericeous; styles (0.4) 0.7-1.3 mm long; stigmas 2, horseshoe-shaped or 4 linear lobes, 0.3-0.4 mm long; stipes 0.6-1.4 mm long, pubescent; nectaries 2, adaxial and abaxial, 0.6-0.8 mm long, 0.5-0.7 (1-2) times as long as stipe; bracts ovate, apex acute, 1.2-2 mm long, brown to dark brown, pubescent on both sides with long straight trichomes 2 times as long as bract.

Habitat

Salix thickets along streams; river margins; subalpine *Salix* thickets.

Range

Montane, boreal: Southeastern Yukon; southward in the cordillera to California and Nevada; eastward to north central Alberta and Montana (Map 52).



Map 52 *Salix drummondiana*

Discussion

Salix drummondiana is a minor component of the willow flora of Alaska and the Yukon, entering that area only in southeastern Yukon. However, it is important in that it may be related to *S. alaxensis* — it shows some signs of intergradation with *S. alaxensis* var. *longistylis* in the Watson Lake area. The two taxa may be distinguished as in Table 19.

Salix drummondiana is a member of a North American complex including the eastern *S. pellita* Anderss. and the northwestern *S. alaxensis*. *Salix pellita* is sometimes treated as synonymous with *S. drummondiana*, but because of its distinctive leaf morphology (resembling *S. viminalis* L.), I am inclined to recognize it as a distinct species although the two do appear to intergrade in central Canada. Cronquist (1964) indicated that *S. pellita* was apomictic, apparently because of the absence of staminate flowering specimens. I have seen staminate flowering specimens from Saskatchewan and I am confident that they occur elsewhere, but because of the precocious flowering of this species, they are either not frequently collected or not recognized when they are. This complex requires further study before any taxonomic revision can be made.

Table 19 Comparison table: *Salix drummondiana* and *S. alaxensis* var. *longistylis*

Characteristics	*drummondiana*	*alaxensis* var. *longistylis*
leaves	sericeous beneath although sometimes ±lanate	villous lanate beneath
style length	(0.4) 0.7-1.3 mm	1.3-2.8 mm
stigma length	0.3-0.4 mm	0.5-1.8 mm
stipe length	0.6-1.4 mm	0-0.3-0.4 mm
pistillate nectaries	2	1

The identity of the type material of *S. drummondiana* has been a persistent source of confusion (Raup 1934, 1959; Ball 1951) which can now be resolved. Of the original specimens studied by Barratt, I have seen a photograph and fragments from the sheet at Kew (*Drummond 672,* Rocky Mountains, A) and two sheets at the New York Botanical Garden (one sheet *Drummond,* H. B. and T. No. 2 and a second sheet simply labelled "*Salix drummondiana,* Fl. Bor. Am."). The material included on these sheets is heterogeneous, containing flowering branches, an immature fruiting branch, and a mature vegetative branch. Unfortunately the type at the Barratt Herbarium at Weslyan University, Middletown, Conn., which was cited by Raup (1934) as annotated by Barratt himself, could not be relocated. But all the material does have a consistency about it that suggests that all the specimens were obtained from the same three plants.

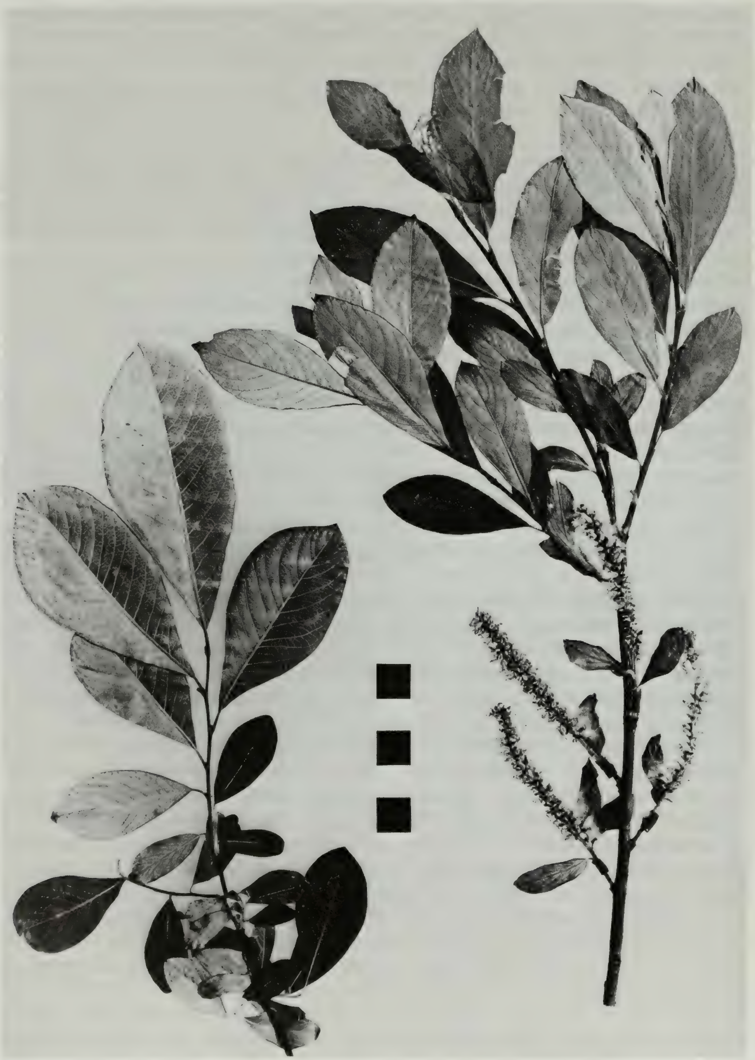
The assumption that the three types of branches belong to the same species was tacitly made by Barratt (Hooker 1838), and accepted by Schneider (1919*c*) and Raup (1934, 1959). However, this assumption is false; Barratt's description is a composite one. The description of leaves is based on the mature vegetative branch, and that of flowers and aments is based on the flowering branches and the immature fruiting branch. Raup (1934, 1959) was seriously misled by this assumption of taxonomic homogeneity of the material when he concluded that the leaves belonged to *S. alaxensis* var. *longistylis* and that the small aments and pistils were "in a state of arrested or partial development", and indicated hybridity. If we study the three elements of the original material without assuming that they are the same taxon, it is evident that the flowering branches represent *S. arbusculoides,* that the immature fruiting branch (on the Kew sheet only) represents *S. drummondiana,* and that the mature branch represents either *S. alaxensis* var. *longistylis* or *S. drummondiana.*

There are seven flowering branches on the three sheets that I have seen. The branches are dark reddish brown, glossy and have a trace of glaucescence. The unfolding leaves are narrowly elliptic, glabrous above and sericeous beneath, the margins are glandular serrulate with about 6 gland-tipped serrulations per mm, and the stipules are narrowly elliptic and glandular. The coetaneous aments are 1.2-1.7 cm long, and subsessile with 2-3 green bracts; the pistils are 1.5 mm long, on stipes 0.4 mm long, and both are sericeous with shiny, straight trichomes; the styles and stigmas are ca. 0.2 mm long. This material can be positively identified as *S. arbusculoides.* The glandular serrulations on the leaf margins are very diagnostic, even in immature material, and although leaves of *S. alaxensis* and *S. drummondiana* are sometimes toothed, the serrulations are never as uniform or as numerous as in *S. arbusculoides.* The subsessile aments, the short styles and stigmas and the short, but evident, stipes as well as the coetaneous flowering, are characteristic of *S. arbusculoides* and serve to distinguish it from *S. alaxensis* and *S. drummondiana.*

There is one mature vegetative branch on the Kew specimen and a fragment of a branch bearing 2 leaves on one of the specimens at NY. The branch is dark brown, glaucous, bearing narrowly obovate leaves 6.7 × 2.8 cm and 6.5 × 2.6 cm, with obtuse apices, acute bases and petioles 7-9 mm long, glabrous above and densely lanate beneath, the midrib yellowish and glabrous. The identity of this material is not unequivocal, and it could represent either *S. alaxensis* var. *longistylis* or *S. drummondiana.* As Raup (1934) has noted, these taxa are difficult to distinguish vegetatively, and although *S. alaxensis* var. *longistylis* has leaves densely lanate beneath (curly trichomes) and *S. drummondiana* usually has leaves sericeous beneath (straight, silky trichomes), there are many exceptions. For example, specimens with intermediate pubescence are known from Watson Lake, Y.T. (*Argus 5017*), and the taxon called *S. bella* Piper (= *S. drummondiana*) is characterized by lanate leaves. It must be concluded that positive identification of this material cannot be made with our present knowledge.

There is one immature fruiting branch, the centre branch on the Kew specimen. I have been able to examine only a young shoot and an ament of this specimen at A. The leaves are variously elliptic, densely white sericeous beneath, sparsely pubescent above with margins entire and glandular dotted. The aments are sessile, ca. 2.5 cm long; the pistils are densely sericeous, 3.2-4 mm long, with styles ca. 0.6 mm long; the stipes are ca. 1.2 mm long, and the nectaries are about one third the length of the stipe. This branch compares favourably with what is usually named *S. drummondiana* (*S. subcoerulea*) in the Rocky Mountains.

Since the original material consists of three discordant elements, the name must be rejected, "unless it is possible to select one of these elements as a satisfactory type" (Article 70, Lanjouw, et al., 1966). The *protologue* is based on all of the elements and does not provide a clear basis for the selection of a lectotype. However, in order to preserve current usage (Recommendation 7B, Lanjouw, et al., 1966), the centre branch on the Kew specimen is selected as the lectotype. The flowering branches are redetermined as *S. arbusculoides* and the mature vegetative branch as *S. alaxensis* var. *longistylis* or *S. drummondiana* (if the latter, then a syntype).



Salix sitchensis Sanson. Vegetative specimen, *Argus 6672* (left) and pistillate specimen, *Argus 6651* (right)

Section 16. Sitchenses Bebb

41. *SALIX SITCHENSIS* Sanson

S. sitchensis Sanson, *in* Bong. Mem. Acad. St. Petersb. 6. 2: 162. 1832. (Type: *Lyall s.n.* photo and frag. A).

S. coulteri Anderss. Ofvers. Vet. Akad. Forh. (Stockh.) 15: 119. 1858. *S. sitchensis* f. *coulteri* Jeps. Fl. Calif. 1: 342. 1909. *S. sitchensis* var. *coulteri* Jeps. Man. Fl. Pl. Calif. 265. 1923.

S. sitchensis var. *congesta* Anderss. *in* DC. Prodr. 16 (2): 233. 1868.

S. sitchensis var. *denudata* Anderss. *in* DC. Prodr. 16 (2): 233. 1868.

Description of species

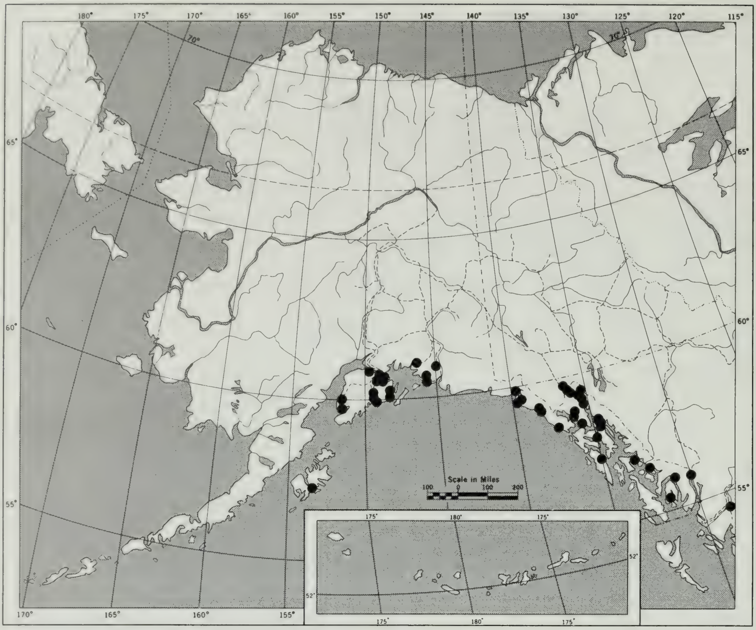
Shrubs 0.5-3.8 m tall, sometimes prostrate or decumbent; branches dark brown becoming greyish, indumentum usually persistent for 2 years; branchlets densely sericeous or velutinous becoming sparsely pubescent, brittle. Leaves narrowly elliptic, narrowly obovate or obovate, the largest leaves (3.1) 4.5-8.5 (12) cm long, (1.3) 1.9-3.2 (4.8) cm wide and (2.1) 2.4-3 (3.5) times as long as wide; apex round with an obtuse or sometimes acuminate tip, sometimes acute, often conduplicate when pressed; base cuneate; margins distantly and inconspicuously glandular serrulate or irregularly glandular crenate, crispate in some vigorous leaves, revolute; the upper side of mature leaves sparsely sericeous or villous becoming glabrate, bright green and dull, the lower side densely to sparsely sericeous with matted straight trichomes appearing satiny, epidermis glossy, more vigorous leaves may be sericeous-lanate; petioles (3) 4-10 (16) mm long, yellowish, velutinous becoming sparsely so; stipules half ovate, minute to 0.4-1.5 mm long, larger on vigorous shoots, pubescent as the leaves. Aments coetaneous, rarely subprecocious, on leafy, floriferous branchlets. Staminate aments 2.2-3 cm long, floriferous branchlets 0.5-1 cm long, persistent after ament drops; stamens 1, filaments 4.4-5.2 mm long, glabrous; anthers 0.6-0.7 mm long. Pistillate aments (1.5) 3-6.5 (9.5) cm long, floriferous branchlets 1-2 cm long; pistils tear-shaped, 2.4-3.6 mm long, densely white sericeous, capsules 3.6-5.6 mm long, tawny green to yellowish, sericeous or sparsely so; styles 0.5-0.8 mm long; stigmas 0.1-0.2 mm long; stipes 0.8-1.4 mm long, densely sericeous; nectaries 1, adaxial, 0.5-0.8 mm long, equal to or 0.5 times as long as stipe; bracts narrowly oblong to obovate, apex rounded, 1.5-2.4 mm long, brown, usually bicolour and darker toward apex, villous on both sides.

Habitat

Gravel bars of rivers; glacial moraines; *Salix* and *Alnus* thickets; shrubby openings in forests.

Range

Pacific coastal, montane: Coastal southern Alaska, from Kodiak Island to southeastern Alaska and adjacent



Map 53 *Salix sitchensis*

British Columbia; southward to Washington and California (Map 53).

Discussion

Salix sitchensis is characterized by usually obovate leaves, satiny pubescent beneath, with revolute vernation; slender pistillate aments with densely sericeous pistils and staminate flowers with one stamen each. It may be confused with vegetative specimens of the densely pubescent form of *S. scouleriana* (*see* that species for discussion).

In southeastern Alaska *Salix sitchensis* is a pioneer species on glacial moraine and gravel bars. In these habitats it may be a prostrate shrub spreading as much as 7 m in diameter. It remains a component of later successional stages, finally becoming the dominant species in mature *Salix-Alnus* thickets. It then declines in importance as the forest becomes closed, but may remain on gravelly stream margins and in disturbed openings within the forest. It is one of the most conspicuous willows in coastal Alaska, but is restricted to coastal habitats and is unable to cross divides such as the Three Guardsman Pass, British Columbia (3,500 ft), north of Haines, Alaska. I know of no case of its occurrence north or east of the coastal mountains.

Appendix A

Key to Codes

PROVINCE / STATE

1	ALBERTA, CANADA
2	BRITISH COLUMBIA, CANADA
3	MANITOBA, CANADA
7	NORTHWEST TERR., CANADA
11	SASKATCHEWAN, CANADA
12	YUKON TERRITORY, CANADA
14	ALASKA, U.S.A.

QUADRANGLES

ALBERTA, CANADA

1	1	BISTCHO LAKE QUAD
1	3	WHITESAND RIVER QUAD
1	4	PEACE POINT QUAD
1	5	FITZGERALD QUAD
1	9	LAKE CLAIRE QUAD
1	10	FORT CHIPEWYAN QUAD
1	20	WATERWAYS QUAD
1	22	WINAGAMI QUAD
1	24	PELICAN QUAD
1	29	TAWATINAW QUAD
1	32	EDSON QUAD
1	34	EDMONTON QUAD
1	36	CANOE RIVER QUAD
1	38	ROCKY MOUNTAIN HOUSE QUAD
1	41	GOLDEN QUAD
1	44	OYEN QUAD
1	48	FERNIE QUAD

BRITISH COLUMBIA, CANADA

2	1	YAKUTAT QUAD
2	2	TATSHENSHINI RIVER QUAD
2	4	ATLIN QUAD
2	5	JENNINGS RIVER QUAD
2	6	MCDAME QUAD
2	7	RABBIT RIVER QUAD
2	12	TULSEQUAH QUAD
2	13	DEASE LAKE QUAD
2	14	CRY LAKE QUAD
2	16	TUCHODI LAKES QUAD
2	17	FORT NELSON QUAD
2	20	TELEGRAPH CREEK QUAD
2	21	SPATSIZI QUAD
2	22	TOODOGGONE RIVER QUAD
2	24	TRUTCH QUAD
2	26	ISKUT RIVER QUAD
2	30	HALFWAY RIVER QUAD
2	31	CHARLIE LAKE QUAD
2	33	HAZELTON QUAD
2	35	PINE PASS QUAD
2	39	TERRACE QUAD
2	40	SMITHERS QUAD
2	41	FORT FRASER QUAD
2	44	GRAHAM ISLAND QUAD
2	45	HECATE STRAIT QUAD
2	46	DOUGLAS CHANNEL QUAD
2	49	PRINCE GEORGE QUAD
2	51	MOUNT ROBESON QUAD
2	52	MORESBY ISLAND QUAD
2	55	ANAHEIM LAKE QUAD
2	56	QUESNEL QUAD
2	62	MOUNT WADDINGTON QUAD
2	64	BONAPARTE LAKE QUAD
2	65	SEYMOUR ARM QUAD
2	72	ASHCROFT QUAD
2	74	LARDEAU QUAD
2	79	HOPE QUAD
2	80	PENTICTON QUAD

MANITOBA, CANADA

3	52	BRANDON QUAD

SASKATCHEWAN, CANADA

11	1	TAZIN LAKE QUAD
11	4	PHELPS LAKE QUAD
11	5	WILLIAM RIVER QUAD
11	22	WATERHEN RIVER QUAD
11	28	SHELLBROOK QUAD
11	29	PRINCE ALBERT QUAD
11	34	MELFORT QUAD
11	35	HUDSON BAY QUAD

NORTHWEST TERR., CANADA

7117	CAPE DALHOUSIE QUAD
7133	MACKENZIE DELTA QUAD
7134	STANTON QUAD
7135	FRANKLIN BAY QUAD
7140	CAMBRIDGE BAY QUAD
7152	AKLAVIK QUAD
7153	CROSSLEY LAKES QUAD
7170	BELL RIVER QUAD
7173	TRAVAILLANT LAKE QUAD
7181	COPPERMINE QUAD
7188	OGDEN BAY QUAD
7208	FORT GOOD HOPE QUAD
7214	SOLAN RIVER QUAD
7218	MARA RIVER QUAD
7241	NORMAN WELLS QUAD
7243	FORT FRANKLIN QUAD
7245	LEITH PENINSULA QUAD
7254	PELLY LAKE QUAD
7274	MOUNT EDUNI QUAD
7275	CARCAJOU CANYON QUAD
7276	FORT NORMAN QUAD
7283	LAC DE GRAS QUAD
7284	AYLMER LAKE QUAD
7285	HEALEY LAKE QUAD
7290	SCHULTZ LAKE QUAD
7297	CORAL HARBOUR QUAD
7306	NIDDERY LAKE QUAD
7307	SEKWI MOUNTAIN QUAD
7308	WRIGLEY LAKE QUAD
7309	DAHADINNI RIVER QUAD
7313	MARIAN RIVER QUAD
7315	CARP LAKE QUAD
7316	MACKAY LAKE QUAD
7329	BEAR COVE QUAD
7335	FROBISHER QUAD
7338	NAHANNI QUAD
7339	GLACIER LAKE QUAD
7340	ROOT RIVER QUAD
7341	CAMSELL BEND QUAD
7342	BULMER LAKE QUAD
7345	YELLOWKNIFE QUAD
7346	HEARNE LAKE QUAD
7347	SNOWDRIFT QUAD
7348	FORT RELIANCE QUAD
7349	LYNX LAKE QUAD
7350	BEAVERHILL LAKE QUAD
7367	FLAT RIVER QUAD
7368	VIRGINIA FALLS QUAD
7369	SIBBESTON LAKE QUAD
7370	FORT SIMPSON QUAD
7371	MILLS LAKE QUAD
7372	FALAISE LAKE QUAD
7373	SULPHUR BAY QUAD
7374	FORT RESOLUTION QUAD
7375	TALTSON LAKE QUAD
7376	NONACHO LAKE QUAD
7388	FORT LIARD QUAD
7391	TATHLINA LAKE QUAD
7392	BUFFALO LAKE QUAD
7394	FORT SMITH QUAD
7395	HILL ISLAND LAKE QUAD
7396	ABITAU LAKE QUAD
7397	WHOLDAIA LAKE QUAD
7402	HYDE LAKE QUAD
7421	FRANCES LAKE QUAD.

YUKON TERRITORY, CANADA

12	1	DEMARCATION POINT QUAD
12	2	HERSCHEL ISLAND QUAD
12	3	DAVIDSON MTS. QUAD
12	4	BLOW RIVER QUAD
12	5	OLD CROW QUAD
12	6	BELL RIVER QUAD
12	7	PORCUPINE RIVER QUAD
12	8	EAGLE RIVER QUAD
12	9	TRAIL RIVER QUAD
12	10	MARTIN HOUSE QUAD
12	11	OGILVIE RIVER QUAD
12	12	HART RIVER QUAD
12	13	WIND RIVER QUAD
12	14	SNAKE RIVER QUAD
12	15	DAWSON QUAD
12	16	LARSEN CREEK QUAD
12	17	NASH CREEK QUAD

12 18	NADALEEN RIVER QUAD
12 19	BONNET PLUME LAKE QUAD
12 20	STEWART RIVER QUAD
12 21	MCQUESTEN QUAD
12 22	MAYO QUAD
12 23	LANSING QUAD
12 24	NIDDERY LAKE QUAD
12 25	SEKWI MOUNTAIN QUAD
12 26	SNAG QUAD
12 27	CARMACKS QUAD
12 28	GLENLYON QUAD
12 29	TAY RIVER QUAD
12 30	SHELDON LAKE QUAD
12 31	NAHANNI QUAD
12 32	KLUANE LAKE QUAD
12 33	AISHIHIK LAKE QUAD
12 34	LABERGE QUAD
12 35	QUIET LAKE QUAD
12 36	FINLAYSON LAKE QUAD
12 37	FRANCES LAKE QUAD
12 38	FLAT RIVER QUAD
12 39	MOUNT ST ELIAS QUAD
12 40	DEZADEASH QUAD
12 41	WHITEHORSE QUAD
12 42	TESLIN QUAD
12 43	WOLF LAKE QUAD
12 44	WATSON LAKE QUAD
12 45	COAL RIVER QUAD
12 46	LA BICHE RIVER QUAD
12 47	FORT LIARD QUAD

ALASKA, U.S.A.

14001	DIXON ENTRANCE QUAD.
14002	PRINCE RUPERT QUAD.
14003	KETCHIKAN QUAD.
14004	CRAIG QUAD.
14005	PORT ALEXANDER QUAD.
14006	PETERSBURG QUAD.
14007	BRADFIELD CANAL QUAD.
14008	SUMDUM QUAD.
14009	SITKA QUAD.
14010	MT.FAIRWEATHER QUAD.
14011	JUNEAU QUAD.
14012	TAKU RIVER QUAD.
14013	ATTU QUAD.
14014	KISKA QUAD.
14015	RAT ISLANDS
14016	GARELOI ISLAND
14017	ADAK QUAD.
14018	ATKA QUAD.
14019	SEGUAM QUAD.
14020	AMUKTA QUAD.
14021	SAMALGA ISLAND QUAD.
14022	UMNAK QUAD.
14023	UNALASKA QUAD.
14024	UNIMAK QUAD.
14025	FALSE PASS QUAD.
14026	SIMEONOF ISLAND QUAD.
14027	STEPOVAK BAY QUAD.
14028	PORT MOLLER QUAD.
14029	COLD BAY QUAD.
14030	CHIGNIK QUAD.
14031	SUTWIK ISLAND QUAD.
14032	TRINITY ISLANDS QUAD.
14033	KAGUYAK QUAD.
14034	KODIAK QUAD..
14035	KARLUK QUAD.
14036	UGASHIK QUAD.
14037	BRISTOL BAY QUAD.
14038	PRIBILOF ISLANDS QUAD.
14039	HAGEMEISTER ISLAND QUAD.
14040	NUSHAGAK BAY QUAD.
14041	NAKNEK QUAD.
14042	MT. KATMAI QUAD.
14043	AFOGNAK QUAD.
14044	ATLIN QUAD.
14045	SKAGWAY QUAD.
14046	YAKUTAT QUAD.
14047	ICY BAY QUAD.
14048	MIDDLETON ISLAND QUAD.
14049	BLYING SOUND QUAD.
14050	SELDOVIA QUAD.
14051	ILIAMNA QUAD.
14052	DILLINGHAM QUAD.
14053	GOODNEWS QUAD.
14054	KUSKOKWIM BAY QUAD.
14055	CAPE MENDENHALL QUAD.
14056	ST. MATTHEW QUAD.
14057	NUNIVAK ISLAND QUAD.
14058	BAIRD INLET QUAD.
14059	BETHEL QUAD.
14060	TAYLOR MTS. QUAD.
14061	LAKE CLARK QUAD.
14062	KENAI QUAD.
14063	SEWARD QUAD.
14064	CORDOVA QUAD.
14065	BERING GLACIER QUAD.
14066	MT. ST. ELIAS QUAD.
14067	MCCARTHY QUAD.
14068	VALDEZ QUAD.
14069	ANCHORAGE QUAD.
14070	TYONEK QUAD.
14071	LIME HILLS QUAD.
14072	SLEETMUTE QUAD.
14073	RUSSIAN MISSION QUAD.
14074	MARSHALL QUAD.
14075	HOOPER BAY QUAD.
14076	BLACK QUAD.
14077	KWIGUK QUAD.
14078	HOLY CROSS QUAD.
14079	IDITAROD QUAD.
14080	MCGRATH QUAD.
14081	TALKEETNA QUAD.
14082	TALKEETNA MTS. QUAD.
14083	GULKANA QUAD.
14084	NABESNA QUAD.
14085	TANACROSS QUAD.
14086	MOUNT HAYES QUAD.
14087	HEALY QUAD.
14088	MOUNT MCKINLEY QUAD.
14089	MEDFRA QUAD.
14090	OPHIR QUAD.
14091	UNALAKLEET QUAD.
14092	ST. MICHAEL QUAD.
14093	ST. LAWRENCE QUAD.
14094	NOME QUAD.
14095	SOLOMON QUAD.
14096	NORTON BAY QUAD.
14097	NULATO QUAD.
14098	RUBY QUAD.
14099	KANTISHNA RIVER QUAD.
14100	FAIRBANKS QUAD.
14101	BIG DELTA QUAD.
14102	EAGLE QUAD.
14103	CHARLEY RIVER QUAD.
14104	CIRCLE QUAD.
14105	LIVENGOOD QUAD.
14106	TANANA QUAD.
14107	MELOZITNA QUAD.
14108	KATEEL RIVER QUAD.
14109	CANDLE QUAD.
14110	BENDELEBEN QUAD.
14111	TELLER QUAD.
14112	SHISHMAREF QUAD.
14113	KOTZEBUE QUAD.
14114	SELAWIK QUAD.
14115	SHUNGNAK QUAD.
14116	HUGHES QUAD.
14117	BETTLES QUAD.
14118	BEAVER QUAD.
14119	FORT YUKON QUAD.
14120	BLACK RIVER QUAD.
14121	COLEEN QUAD.
14122	CHRISTIAN QUAD.
14123	CHANDALAR QUAD.
14124	WISEMAN QUAD.
14125	SURVEY PASS QUAD.
14126	AMBLER RIVER QUAD.
14127	BAIRD MTS. QUAD.
14128	NOATAK QUAD.
14129	POINT HOPE QUAD.
14130	DE LONG MTS. QUAD.
14131	MUSHEGUR MTS. QUAD.
14132	HOWARD PASS QUAD.
14133	KILLIK RIVER QUAD.
14134	CHANDLER LAKE QUAD.
14135	PHILIP SMITH MTS. QUAD.
14136	ARCTIC QUAD.
14137	TABLE MOUNTAIN QUAD.
14138	DEMARCATION POINT QUAD.
14139	MT. MICHELSON QUAD.
14140	SAGAVANIRKTOK QUAD.
14141	UMIAT QUAD.
14142	IKPIKPUK RIVER QUAD.
14143	LOOKOUT RIDGE QUAD.
14144	UTUKOK RIVER QUAD.
14145	POINT LAY QUAD.
14146	WAINWRIGHT QUAD.
14147	MEADE RIVER QUAD.
14148	TESHEKPUK QUAD.
14149	HARRISON BAY QUAD.
14150	BEECHEY POINT QUAD.
14151	FLAXMAN ISLAND QUAD.
14152	BARTER ISLAND QUAD.
14153	BARROW QUAD.

Key to Codes

```
SPECIES


 122   1  ALAXENSIS VAR. ALAXENSIS
 122   2  ALAXENSIS VAR. LONGISTYLIS
  39      ARBUSCULOIDES
  45      ARCTICA
  50      ARCTOPHILA
  71      ATHABASCENSIS
   3      BABYLONICA
  87      BARCLAYI
  90      BARRATTIANA
   4      BEBBIANA
 101 1    BRACHYCARPA SSP. BRACHYCARPA
 101 4    BRACHYCARPA SSP. NIPHOCLADA
   5      CANDIDA
  32      COMMUTATA
  89      CHAMISSONIS
 119      DRUMMONDIANA
  46      FUSCESCENS
  49   5  GLAUCA VAR. VILLOSA
  49   2  GLAUCA VAR. ACUTIFOLIA
  49   1  GLAUCA VAR. GLAUCA
  41      HASTATA
  57      HOOKERIANA
  12      INTERIOR
 103 3    LANATA SSP. RICHARDSONII
  66      LASIANDRA
  73      MACCALLIANA
  77      MONTICOLA
  78      MYRTILLIFOLIA
  98      NOVAE-ANGLIAE
  80      NUMMULARIA
  83   1  OVALIFOLIA VAR. OVALIFOLIA
  83   2  OVALIFOLIA VAR. ARCTOLITORALIS
  83   4  OVALIFOLIA VAR. CYCLOPHYLLA
  83   3  OVALIFOLIA VAR. GLACIALIS
  15      PEDICELLARIS
  16      PENTANDRA
  92      PHLEBOPHYLLA
  28 3 3  PLANIFOLIA SSP. PULCHRA VAR. PULCHRA
  28 1    PLANIFOLIA SSP. PLANIFOLIA
  28 3 2  PLANIFOLIA SSP. PULCHRA VAR. YUKONENSIS
  96      POLARIS
  19      PYRIFOLIA
 102 1    RETICULATA SSP. RETICULATA
 102 2    RETICULATA SSP. GLABELLICARPA
 020      RIGIDA
 105 1    ROTUNDIFOLIA SSP. ROTUNDIFOLIA
 105 2    ROTUNDIFOLIA SSP. DODGEANA
 109      SCOULERIANA
 113      SETCHELLIANA
 116      SITCHENSIS
  36      SPHENOPHYLLA
 118      STOLONIFERA


HYBRIDS


 122   1  ALAXENSIS VAR. ALAXENSIS X 103 LANATA
 122   2  ALAXENSIS VAR. LONGISTYLIS X 122 ALAXENSIS
  45      ARCTICA X  87 BARCLAYI
  45      ARCTICA X  49 GLAUCA
  45      ARCTICA X  83 OVALIFOLIA
  45      ARCTICA X 118 STOLONIFERA
  71      ATHABASCENSIS X  15 PEDICELLARIS
  87      BARCLAYI X 103 LANATA
  87      BARCLAYI X  32 COMMUTATA
  87      BARCLAYI X 118 STOLONIFERA
 101 4    BRACHYCARPA SSP. NIPHOCLADA X  49 GLAUCA
  15      PEDICELLARIS X  71 ATHABASCENSIS
  92      PHLEBOPHYLLA X 105 ROTUNDIFOLIA
  28 3    PLANIFOLIA SSP. PULCHRA X 109 SCOULERIANA
 105 1    ROTUNDIFOLIA SSP. ROTUNDIFOLIA X 92 PHLEBOPHYLLA
```

HERBARIA

A	ARNOLD ARBORETUM, CAMBRIDGE, MASS.
ALA	UNIVERSITY OF ALASKA, COLLEGE, ALASKA
BRY	BRIGHAM YOUNG UNIVERSITY, PROVO, UTAH
CAN	NATIONAL HERBARIUM OF CANADA, OTTAWA
CS	COLORADO STATE UNIVERSITY, FORT COLLINS, COLO.
DAO	CANADA DEPARTMENT OF AGRICULTURE, OTTAWA
FSLC	U.S. FOREST SERVICE, COLLEGE, ALASKA
GH	GRAY HERBARIUM, CAMBRIDGE, MASS.
GWA	PERSONAL HERBARIUM, GEORGE W. ARGUS, AT OTF
ISC	IOWA STATE UNIVERSITY, AMES, IOWA
LAV	PERSONAL HERBARIUM, L. A. VIERECK, AT ALA
MICH	UNIVERSITY OF MICHIGAN, ANN ARBOR, MICH.
MIN	UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MINN.
NA	U.S. NATIONAL ARBORETUM, WASHINGTON, D.C.
NY	NEW YORK BOTANICAL GARDEN, NEW YORK
OTF	CANADIAN FORESTRY SERVICE, OTTAWA
RM	ROCKY MOUNTAIN HERBARIUM, LARAMIE, WYO.
SASK	UNIVERSITY OF SASKATCHEWAN, SASKATOON, SASK.
US	U.S. NATIONAL MUSEUM, WASHINGTON, D.C.
UWO	UNIVERSITY OF WESTERN ONTARIO, LONDON, ONT.
WIS	UNIVERSITY OF WISCONSIN, MADISON, WIS.
WTU	UNIVERSITY OF WASHINGTON, SEATTLE, WASH.

Appendix B

Specimens Cited

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB	+ NO
3	BABYLONICA													
1873	3				14	6	5648	13258	PETERSBURG	19 4 967	G W ARGUS	6839	GWA	
4	BEBBIANA													
1873	4				1	3	5854	11135	QUATRE FOUR R	06 06 927	H M RAUP	542	ALA	14475
1873	4				1	5	5908	11128	SLAVE RIVER	12 06 927	H M RAUP	539	ALA	14476
1873	4				1	38	5258	11322	WETASKIWIN	25 05 939	H M RAUP	9006	ALA	14826
1873	4				2	2	5935	13629	MT GLAVE AT T	14 7 967	G W ARGUS	6785	GWA	
1873	4				2	7	5959	12750	ALA HWY MI 590	28 06 968	S L WELSH	7435	GWA	
1873	4				2	14	5822	12955	DEASE L VILLAG	13 8 969	K RIGBY	268	OTF	1151
1873	4				2	16	5839	12419	SUMMIT PASS	22 06 943	H M RAUP	10758	ALA	19827
1873	4				2	16	5839	12420	TETSA RIVER	25 06 968	S L WELSH	7284	GWA	
1873	4				2	16	5847	12458	MACDONALD CR	25 06 968	S L WELSH	7323	GWA	
1873	4				2	24	5714	12243	SIKANNI R	20 06 943	H M RAUP	10181	ALA	19830
1873	4				2	24	5705	12235	BEATTON RIVER	13 06 943	H M RAUP	10064	ALA	19838
1873	4				2	24	5705	12235	BEATTON RIVER	12 06 943	H M RAUP	10042	ALA	19833
1873	4				2	24	5705	12235	BEATTON RIVER	12 06 943	H M RAUP	10036	ALA	19834
1873	4				2	24	5705	12235	BEATTON RIVER	13 06 943	H M RAUP	10063	ALA	19829
1873	4				2	24	5659	12211	BEATTON RIVER	16 06 943	H M RAUP	10099	ALA	19831
1873	4				2	040	5445	12700	MACLURE LAKE.	8 6 967	G W ARGUS	6085	GWA	
1873	4				2	049	5320	12245	PRINCE GEORGE.	7 6 967	G W ARGUS	6078	GWA	
1873	4				2	049	5320	12245	PRINCE GEORGE.	7 6 967	G W ARGUS	6072	GWA	
1873	4				7	153	6833	12829	ANDERSON RIVER	10 07 965	G SCOTTER	S.N.	GWA	
1873	4				7	170	6745	13601	HORNE L.	6 7 962	J A CALDER	34003	DAO	
1873	4				7	241	6517	12651	NORMAN WELLS	22 7 953	W J CODY	7443	DAO	
1873	4				7	339	6205	12735	RED MOUNTAIN	28 06 939	H M RAUP	9306	ALA	14861
1873	4				7	339	6205	12735	RED MOUNTAIN	21 06 939	H M RAUP	9223	ALA	14855
1873	4				7	339	6205	12735	RED MOUNTAIN	21 06 939	H M RAUP	9229	ALA	14862
1873	4				7	339	6205	12735	RED MOUNTAIN	28 06 939	H M RAUP	9306	GWA	
1873	4				7	368	6137	12544	VIRGINIA FALLS	29 6 970	G W SCOTTER	12508	GWA	
1873	4				7	370	6152	12123	FORT SIMPSON	09 06 955	W J CODY	8126	ALA	24337
1873	4				7	370	6152	12122	FT. SIMPSON	7 6 955	W J CODY	8083	GWA	
1873	4				7	370	6152	12123	FORT SIMPSON	11 06 939	H M RAUP	9080	ALA	14825
1873	4				7	394	6000	11153	FORT SMITH	23 06 927	H M RAUP	538	ALA	14477
1873	4				11	33	5207	10638	SASKATOON	24 5 962	G W ARGUS	13/62	GWA	
1873	4				12	15	6404	13925	DAWSON	932	BEAUCHAMP		ALA	505
1873	4				12	15	6412	14021	SIXTY MI ROAD	26 06 966	S L WELSH	5596	GWA	
1873	4				12	26	6214	14040	SNAG JUNCTION	09 06 956	G W ARGUS	275	GWA	
1873	4				12	27	6205	13618	CARMACKS	21 08 941	L J COLE		TSC	256211
1873	4				12	32	6122	13843	KLUANE LAKE	08 07 944	H M RAUP	12360	ALA	19825
1873	4				12	35	6155	13238	LOWER LAPIE R	15 06 944	A E PORSILD	9509	TSC	256172
1873	4				12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11782	ALA	19826
1873	4				12	40	6046	13730	ALSEK RIVER	26 06 944	H M RAUP	11963	ALA	19832
1873	4				12	40	6046	13730	ALSEK RIVER	26 06 944	H M RAUP	11963	GWA	
1873	4				12	41	6043	13503	WHITEHORSE	31 07 944	J P ANDERSON	9604	TSC	256205
1873	4				12	41	6043	13503	WHITEHORSE	932	BEAUCHAMP	127	ALA	507
1873	4				12	41	6043	13503	WHITEHORSE	932	BEAUCHAMP	129	ALA	510
1873	4				12	41	6043	13503	WHITEHORSE	932	BEAUCHAMP		ALA	506
1873	4				12	41	6043	13502	WHITEHORSE	01 06 944	A E PORSILD	9154	TSC	256171
1873	4				12	41	6043	13503	WHITEHORSE	13 06 958	W M STIELL		GWA	
1873	4				12	41	6039	13502	MILES CANYON	11 06 958	W M STIELL	4	GWA	
1873	4				12	41	6033	13417	ALA HWY MI 882	24 06 966	S L WELSH	5500	GWA	
1873	4				12	42	6022	13351	LITTLE ATLIN L	13 08 943	H M RAUP	11265	ALA	19828
1873	4				12	42	6006	13227	ALA HWY MI 793	24 06 966	S L WELSH	5479	GWA	
1873	4				12	43	6005	13040	RANCHERIA	21 06 948	J P ANDERSON	10452	TSC	256184
1873	4				12	43	6007	12931	RANCHERIA R	29 06 968	S L WELSH	7485	GWA	
1873	4				12	44	6007	12843	WATSON LAKE	22 06 946	J P ANDERSON	9925	TSC	256187
1873	4				12	44	6003	12840	WATSON LAKE	07 06 956	G W ARGUS	270	ALA	4823
1873	4				12	44	6003	12840	WATSON LAKE	07 06 956	G W ARGUS	271	ALA	4822
1873	4				12	44	6003	12840	WATSON LAKE	07 06 956	G W ARGUS	270	GWA	
1873	4				12	44	6003	12840	WATSON LAKE	07 06 956	G W ARGUS	271	GWA	
1873	4				12	44	6003	12840	WATSON LAKE	24 06 966	G W ARGUS	5021	GWA	
1873	4				12	44	6003	12840	WATSON LAKE	24 06 966	G W ARGUS	5018	GWA	
1873	4				12	44	6003	12840	WATSON LAKE	07 06 956	G W ARGUS	269	GWA	
1873	4				12	44	6013	12840	WATSON LAKE	24 06 966	Y SUDA	11366	GWA	
1873	4				14	35	5748	15404	UYAK BAY	26 05 938	J P ANDERSON	3132	TSC	256194
1873	4				14	41	5842	15640	KING SALMON	23 07 965	V L HARMS	4450	ALA	32563
1873	4				14	42	5845	15537	COVILLE LAKE	08 07 954	V H CAHALANE		TSC	219362
1873	4				14	42	5845	15537	COVILLE LAKE	08 07 954	G SCHALLER	S.N.	ALA	2978
1873	4				14	42	5841	15515	GROSVENOR LAKE	22 07 954	G SCHALLER	S.N.	ALA	2981
1873	4				14	50	5937	15127	HOMER	11 06 961	E L LITTLE, JR.	18416	GWA	
1873	4				14	50	5940	15132	HOMER	13 06 967	L A VIERECK	8267	GWA	
1873	4				14	62	6055	14939	HOPE	07 06 941	J P ANDERSON	6645	TSC	256203
1873	4				14	62	6033	15116	KENAI	12 07 951	D KLEIN	448	TSC	256168
1873	4				14	62	6009	15130	STERHWY MI 125	12 06 967	L A VIERECK	8257	GWA	
1873	4				14	63	6029	14920	MOOSE PASS	01 06 941	J P ANDERSON	6473	TSC	256177
1873	4				14	63	6029	14950	COOPER'S LANDG	21 06 941	J P ANDERSON	6932	TSC	256176
1873	4				14	63	6029	14950	COOPER'S LANDG	19 06 941	J P ANDERSON	6855	TSC	256188
1873	4				14	63	6029	14950	COOPER'S LANDG	939	A W SHARPLES		TSC	256191
1873	4				14	67	6126	14256	MCCARTHY	08 06 961	E L LITTLE, JR.	18379	GWA	
1873	4				14	67	6130	14300	KENNICOTT GL	06 08 957	L A VIERECK	2208	ALA	8406

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	4				14	67	6130	14300	KENNICOTT GL	06 08 957	L A VIERECK	2208	GWA
1873	4				14	68	6131	14426	CHITINA	07 07 935	J P ANDERSON	2013	TSC 256198
1873	4				14	68	6153	14602	ST ANNE LAKE	07 06 961	E L LITTLE, JR.	18363	GWA
1873	4				14	68	6147	14511	RICH HWY M87	01 08 967	L A VIERECK	8460	GWA
1873	4				14	68	6149	14512	RICH HWY M90	01 08 967	L A VIERECK	8454	GWA
1873	4				14	68	6147	14511	RICHHWY M 87.8	01 08 967	L A VIERECK	8459	GWA
1873	4				14	69	6132	14914	MATANUSKA	04 07 931	J P ANDERSON	796	ALA 27349
1873	4				14	69	6132	14914	MATANUSKA	07 07 931	J P ANDERSON	897	ALA 27351
1873	4				14	69	6132	14914	MATANUSKA	07 07 931	J P ANDERSON	897	TSC 258201
1873	4				14	69	6128	14922	EKLUTNA	26 06 941	J P ANDERSON	6957	TSC 256189
1873	4				14	69	6128	14922	EKLUTNA	26 06 941	J P ANDERSON	6958	TSC 256174
1873	4				14	69	6150	14731	SHEEP MT	15 07 948	J P ANDERSON	10673	TSC 256183
1873	4				14	69	6148	14828	CHICKALOON	07 07 948	J P ANDERSON	10571	TSC 256170
1873	4				14	69	6132	14914	MATANUSKA	04 07 931	J P ANDERSON	796	TSC 256199
1873	4				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	134	ALA 5169
1873	4				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	101	ALA 5166
1873	4				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	160	ALA 5160
1873	4				14	69	6113	14954	ANCHORAGE	15 06 965	S L WELSH	4141	TSC 246123
1873	4				14	69	6113	14954	ANCHORAGE	15 06 965	S L WELSH	4143	TSC 246122
1873	4				14	70	6145	15003	WILLOW	28 06 941	J P ANDERSON	7008	TSC 256173
1873	4				14	70	6145	15003	WILLOW	28 06 941	J P ANDERSON	7010	TSC 256202
1873	4				14	70	6145	15003	WILLOW	28 06 941	J P ANDERSON	7009	TSC 256204
1873	4				14	70	6157	15111	SKWENTNA	15 06 961	E L LITTLE, JR.	18433	GWA
1873	4				14	73	6130	15934	ANIAK	28 6 949	W H DRURY	1705	CAN
1873	4				14	73	6135	15930	ANIAK	17 6 949	W H DRURY	1424	CAN
1873	4				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1461	CAN
1873	4				14	79	6259	15604	TAKOTNA	26 07 941	J P ANDERSON	7414	ALA 509
1873	4				14	79	6259	15604	TAKOTNA	26 07 941	J P ANDERSON	7412	TSC 256193
1873	4				14	79	6259	15604	TAKOTNA	26 07 941	J P ANDERSON	7414	TSC 256192
1873	4				14	79	6259	15604	TAKOTNA	27 06 940	E SCAMMAN	1827	GWA
1873	4				14	80	6229	15503	BIG RIVER	21 7 950	W H DRURY	4368	CAN
1873	4				14	80	6232	15337	FAREWELL L.	7 8 949	W H DRURY	2557	CAN
1873	4				14	80	6233	15337	FAREWELL L.	2 8 949	W H DRURY	2284	CAN
1873	4				14	80	6233	15337	FAREWELL L.	2 8 949	W H DRURY	2345	CAN
1873	4				14	80	6257	15536	MCGRATH	7 6 950	W H DRURY	3618	CAN
1873	4				14	80	6257	15536	MCGRATH	13 6 949	W H DRURY	1356	CAN
1873	4				14	80	6257	15536	MCGRATH	13 6 949	W H DRURY	1370	CAN
1873	4				14	80	6258	15535	MCGRATH	14 06 948	R L LAYDEN	14	TSC 256181
1873	4				14	81	6220	15006	TALKEETNA	11 08 941	J P ANDERSON	7720	TSC 256178
1873	4				14	81	6228	15115	KAHILTNA GL	27 06 956	L A VIERECK	1050	ALA 11624
1873	4				14	81	6228	15115	KAHILTNA GL	27 06 956	L A VIERECK	1050	GWA
1873	4				14	83	6218	14518	GAKONA	18 06 944	J P ANDERSON	8505	TSC 256207
1873	4				14	83	6216	14523	GULKANA	19 06 957	G W ARGUS	1042	ALA 8402
1873	4				14	83	6216	14523	GULKANA	19 06 957	G W ARGUS	1042	GWA
1873	4				14	83	6218	14518	GAKONA	28 06 966	S L WELSH	5654	GWA
1873	4				14	84	6258	14156	NORTHWAY		G W GASSER	S.N.	ALA 24997
1873	4				14	85	6301	14148	NORTHWAY JC	06 07 946	J P ANDERSON	10105	TSC 256186
1873	4				14	85	6323	14321	TANACROSS	27 06 944	J P ANDERSON	8792	TSC 256206
1873	4				14	85	6320	14236	FORTY MI HOUSE	24 06 963	M BARTHOLOMEW	1863	ALA 25882
1873	4				14	85	6321	14233	FORTY MI HOUSE	06 07 963	M BARTHOLOMEW	3963	ALA 25897
1873	4				14	85	6327	14228	FORTY MI HOUSE	21 06 963	J NAVA	106	ALA 23968
1873	4				14	85	6328	14301	TOK JUNCTION	25 07 9 7	L A SPETZMAN	879	ALA 6872
1873	4				14	85	6337	14355	JAN LAKE	05 07 957	L A SPETZMAN	267	ALA 6873
1873	4				14	86	6347	14545	DONNELY DOME	29 06 957	G W ARGUS	1056	ALA 6720
1873	4				14	86	6347	14545	DONNELY DOME	29 06 957	G W ARGUS	1056	GWA
1873	4				14	86	6347	14545	DONNELY DOME	30 06 957	G W ARGUS	1063	GWA
1873	4				14	86	6347	14430	GEORGE LAKE	10 08 964	V L HARMS	3175	ALA 32611
1873	4				14	86	6347	14430	GEORGE LAKE	10 08 964	V L HARMS	3164	ALA 32605
1873	4				14	86	6347	14430	GEORGE LAKE	10 08 964	V L HARMS	3162	ALA 32610
1873	4				14	86	6355	14452	UPPER TANANA R	23 07 966	L A VIERECK	7738	FSLC
1873	4				14	87	6344	14855	MCKINLEY NAT P	23 06 954	G M FROHNE	54202	ALA 21926
1873	4				14	87	6343	14856	MCKINLEY NAT P	20 06 960	A MURIE	10	GWA
1873	4				14	87	6344	14855	MCKINLEY NAT P	30 07 959	A MURIE	4	GWA
1873	4				14	87	6344	14855	MCKINLEY NAT P	21 08 950	A MURIE	7	GWA
1873	4				14	87	6343	14900	MCKINLEY NAT P	21 08 950	A MURIE	9	GWA
1873	4				14	87	6344	14855	MCKINLEY NAT P	30 06 939	A NELSON	3587	ALA 508
1873	4				14	87	6344	14855	MCKINLEY NAT P	30 06 939	A NELSON	3587	TSC 256190
1873	4				14	87	6344	14855	MCKINLEY NAT P	30 06 959	E H RENZEL	1A	TSC 228343
1873	4				14	87	6344	14855	MCKINLEY NAT P	30 06 959	E H RENZEL	1B	TSC 228344
1873	4				14	89	6315	15442	NIXON MINES	4 9 949	W H DRURY	3356	CAN
1873	4				14	90	6307	15632	OPHIR	12 9 949	W H DRURY	3448	CAN
1873	4				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	53	ALA 25442
1873	4				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	53	ALA 25461
1873	4				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	53	ALA 2012
1873	4				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	54	ALA 25469
1873	4				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	54	ALA 2013
1873	4				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	51	ALA 25466
1873	4				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	51	ALA 2014
1873	4				14	100	6450	14740	FAIRBANKS	10 05 940	J P ANDERSON	6078	TSC 256196
1873	4				14	100	6450	14740	FAIRBANKS	10 05 940	J P ANDERSON	6079	TSC 256195
1873	4				14	100	6452	14752	SMITH LAKE	04 08 956	G W ARGUS	725	ALA 4569
1873	4				14	100	6452	14752	SMITH LAKE	04 08 956	G W ARGUS	281	ALA 4568
1873	4				14	100	6454	14751	GOLDSTREAM CR	15 06 957	G W ARGUS	1024	ALA 6741
1873	4				14	100	6452	14750	COLLEGE	14 07 957	G W ARGUS	1107	ALA 6721
1873	4				14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1004	ALA 6731
1873	4				14	100	6452	14752	FAIRBANKS	04 08 956	G W ARGUS	725	GWA
1873	4				14	100	6454	14751	GOLDSTREAM CR	15 06 957	G W ARGUS	1024	GWA
1873	4				14	100	6452	14750	COLLEGE	14 07 957	G W ARGUS	1107	GWA
1873	4				14	100	6450	14730	FAIRBANKS	09 08 956	G W ARGUS	767	GWA
1873	4				14	100	6450	14730	FAIRBANKS	25 06 956	G W ARGUS	984	GWA
1873	4				14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1004	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	4				14	100	6453	14751	COLLEGE	14 06 956	G W ARGUS	313	GWA
1873	4				14	100	6453	14751	COLLEGE	14 06 956	G W ARGUS	779	GWA
1873	4				14	100	6452	14750	COLLEGE	18 05 949	G GUILSHER	4	ALA 3102
1873	4				14	100	6457	14740	FOX	09 06 964	V L HARMS	2658	ALA 32645
1873	4				14	100	6455	14755	COLLEGE	05 06 965	V L HARMS	3486	ALA 32629
1873	4				14	100	6452	14750	COLLEGE		V L HARMS	3442	ALA 32635
1873	4				14	100	6451	14751	ESTER	21 07 964	V L HARMS	29948	ALA 32621
1873	4				14	100	6452	14752	UNIV EXP FARM	26 05 965	V L HARMS	3345	ALA 32631
1873	4				14	100	6452	14752	UNIV EXP FARM	10 09 959	A JOHNSON	4804	GWA
1873	4				14	100	6452	14750	COLLEGE	14 07 961	J OKEDARA		ALA 18738
1873	4				14	100	6450	14740	FAIRBANKS	17 06 933	L J PALMER	200	ALA 32133
1873	4				14	100	6450	14740	FAIRBANKS	17 06 933	L J PALMER	200	ALA 5246
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	150	ALA 5230
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	161	ALA 5232
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	163	ALA 5234
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	176	ALA 5230
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	172	ALA 5238
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	190	ALA 5243
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	162	ALS 5233
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	183	ALA 5240
1873	4				14	100	6450	14740	FAIRBANKS	17 06 933	L J PALMER	209	ALA 5250
1873	4				14	100	6450	14740	FAIRBANKS	17 06 933	L J PALMER	209	ALA 32132
1873	4				14	100	6450	14740	FAIRBANKS	20 06 927	L J PALMER	1787	ALA 5922
1873	4				14	100	6450	14740	FAIRBANKS	20 06 927	L J PALMER	1790	ALA 5792
1873	4				14	100	6450	14740	FAIRBANKS	20 06 927	L J PALMER	1766	ALA 5940
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	198	ALA 5245
1873	4				14	100	6450	14740	FAIRBANKS	20 07 931	L J PALMER	18	ALA 5977
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	167	ALA 5237
1873	4				14	100	6450	14740	FAIRBANKS	20 07 931	L J PALMER	9	ALA 5907
1873	4				14	100	6450	14740	FAIRBANKS	20 07 931	L J PALMER	19	ALA 5973
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	148	ALA 5229
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	166	ALA 5236
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	188	ALA 5241
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	189	ALA 5242
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	165	ALA 5235
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	157	ALA 5231
1873	4				14	100	6450	14740	FAIRBANKS	20 06 927	L J PALMER	1787	ALA 5184
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	182	ALA 5263
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	204	ALA 5249
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	203	ALA 5248
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	196	ALA 5244
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	201	ALA 5247
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	206	ALA 5253
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	207	ALA 5251
1873	4				14	100	6450	14740	FAIRBANKS	06 933	L J PALMER	197	ALA
1873	4				14	100	6451	14748	FAIRBANKS	21 07 963	T SCHUCK	9	ALA 26176
1873	4				14	100	6453	14751	COLLEGE	05 06 955	S G SMITH	2	ALA 10736
1873	4				14	100	6447	14745	COLLEGE	06 06 955	S G SMITH	9	ALA 10740
1873	4				14	100	6450	14740	FAIRBANKS	07 06 955	S G SMITH	5	ALA 10742
1873	4				14	100	6447	14745	COLLEGE	23 07 964	L A VIERECK	7510	FSLC 273
1873	4				14	100	6452	14752	UNIV EXP FARM	29 07 963	L A VIERECK	7004	FSLC 47
1873	4				14	100	6452	14752	UNIV EXP FARM	29 07 963	L A VIERECK	7001	FSLC
1873	4				14	100	6452	14752	UNIV EXP FARM	29 07 963	L A VIERECK	7002	FSLC 43
1873	4				14	100	6452	14752	UNIV EXP FARM	17 06 964	L A VIERECK	7191	FSLC 281
1873	4				14	101	6456	14640	CHENA RIVER	06 07 966	G W ARGUS	5103	GWA
1873	4				14	101	6456	14640	CHENA RIVER	06 07 966	G W ARGUS	5100	GWA
1873	4				14	101	6410	14551	BIG DELTA	01 06 961	E L LITTLE, JR.	18206	GWA
1873	4				14	101	6458	14657	UPPER CHENA R	25 05 965	L A VIERECK	7545	GWA
1873	4				14	101	6458	14657	UPPER CHENA R	25 05 965	L A VIERECK	7544	GWA
1873	4				14	104	6545	14430	CENTRAL	15 06 951	J L BUCKLEY		ALA 5040
1873	4				14	104	6545	14430	CENTRAL	15 06 951	J L BUCKLEY		ALA 5041
1873	4				14	104	6545	14430	CENTRAL	15 06 951	J L BUCKLEY		ALA 26817
1873	4				14	104	6532	14513	MILLER HOUSE	12 07 940	E SCAMMAN	2044	ALA 8399
1873	4				14	104	6532	14513	MILLER HOUSE	12 07 940	E SCAMMAN	2044	GWA
1873	4				14	104	6523	14554	STEEHWY MI 90.	25 06 957	S SHETLER	230AF	ALA 3869
1873	4				14	105	6503	14726	CLEARY SUMMIT	16 07 935	J P ANDERSON	2364	ISC 256197
1873	4				14	105	6532	14833	LIVENGOOD	08 07 944	J P ANDERSON	8971	ISC 256209
1873	4				14	105	6532	14833	LIVENGOOD	08 07 944	J P ANDERSON	8970	ISC 256208
1873	4				14	105	6532	14833	LIVENGOOD	17 06 954	S G SMITH	2375	ALA 10735
1873	4				14	105	6532	14833	LIVENGOOD	17 06 954	S G SMITH	2375	GWA
1873	4				14	106	6500	15038	MANLEY HOT SPR	05 07 941	J P ANDERSON	7061	ISC 256175
1873	4				14	106	6500	15038	MANLEY HOT SPR	25 06 965	S L WELSH	4388	ISC 246329
1873	4				14	119	6634	14516	FORT YUKON	24 05 961	E L LITTLE, JR.	18214	GWA
1873	4				14	120	6644	14334	BLACK RIVER	04 07 957	S SHETLER	335AF	ALA 3881
1873	4				14	120	6644	14334	BLACK RIVER	06 07 957	S SHETLER	382AF	ALA 3905
1873	4				14	120	6644	14334	BLACK RIVER	03 07 957	S SHETLER	316AF	ALA 3870
1873	4				14	120	6644	14334	BLACK RIVER	08 07 957	S SHETLER	425AF	ALA 3933
1873	4				14	120	6644	14334	BLACK RIVER	06 07 957	S SHETLER	385AF	ALA 3908
1873	4				14	120	6644	14334	BLACK RIVER	14 07 957	S SHETLER	537AF	ALA 4001
1873	4				14	121	6710	14155	HOWLING DOG RK	12 08 951	J L BUCKLEY		ALA 5035
1873	4				14	121	6710	14155	HOWLING DOG RK	12 08 951	J L BUCKLEY		ALA 5031
1873	4				14	121	6710	14155	HOWLING DOG RK	12 08 951	J L BUCKLEY		ALA 26759
1873	4				14	121	6710	14155	HOWLING DOG RK	12 08 951	J L BUCKLEY	S.N.	ALA 5027
1873	4				14	121	6711	14155	HOWLING DOG RK	26 07 957	J L BUCKLEY	202	ALA 5095
1873	4				14	121	6709	14140	PORCUPINE R	22 07 957	J C BUCKLEY	138	ALA 5079
1873	4				14	121	6716	14138	PORCUPINE R	16 08 954	J L BUCKLEY		ALA 5027
1873	4				14	121	6716	14138	PORCUPINE R	10 08 961	F C DEAN	S.N.	ALA 24043
1873	4				14	121	6709	14140	PORCUPINE R	12 08 961	F C DEAN	195413	ALA 24098
1873	4				14	121	6716	14138	PORCUPINE R	10 08 961	F C DEAN		ALA 24093
1873	4				14	121	6702	14235	PORCUPINE R	18 08 961	F C DEAN		ALA 21522
1873	4				14	121	6702	14235	PORCUPINE R	18 08 961	F C DEAN		ALA 24105

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	4				14	121	6723	14350	SMALL LAKE	31 07 957	S SHETLER	822AF	ALA 4181
1873	4				14	124	6725	15007	WISEMAN	10 07 962	R BROCKMAN		ALA 28480
1873	4				14	124	6725	15007	WISEMAN	14 06 962	R BROCKMAN		ALA 28484
1873	4				14	126	6706	15815	ONION PORTAGE	31 07 967	C SCHWEGER	161	ALA 34721
5	CANDIDA												
1873	5				2	7	5925	12604	LIARD HOT SPR	07 06 956	G W ARGUS	267	ALA 4763
1873	5				2	7	5926	12605	LIARD HOT SPS	27 06 968	S L WELSH	7401	GWA
1873	5				7	367	6125	12636	S. NAHANNI R.	3 7 970	G W SCOTTER	12753	GWA
1873	5				11	29	5336	10554	EMMA LAKE	10 7 965	G W ARGUS	4868	GWA
1873	5				12	4	6815	13850	OLD CROW FLATS	11 7 970	S L WELSH	10478	BRY 91685
1873	5				12	22	6335	13545	MAYO	01 07 967	R PORSILD	655	CAN 312744
1873	5				12	34	6105	13516	DAWSON RD	06 06 960	J A CALDER	25077	ALA 17425
1873	5				12	40	6041	13736	MACKINTOSH	17 08 957	W SCHOFIELD	8310	CAN 269643
1873	5				12	44	6007	12843	WATSON LAKE	03 08 943	H RAUP	11009	CAN 280494
1873	5				14	9	6043	13503	WHITEHORSE	02 06 944	A PORSILD	9147	GH
1873	5				14	9	6043	13503	WHITEHORSE	28 07 944	A PORSILD	10663	GH
1873	5				14	9	6043	13503	WHITEHORSE	28 07 944	A E PORSILD	10663	CAN
1873	5				14	9	6043	13503	WHITEHORSE	02 06 944	A E PORSILD	9147	CAN
1873	5				14	84	6253	14133	DEADMAN LAKE	07 07 968	S L WELSH	7981	GWA
1873	5				14	100	6433	14703	SALCHA SLOUGH	21 06 922	O MURIE		US 1119998
1873	5				14	100	6433	14703	SALCHA SLOUGH	21 06 922	O MURIE		US 1119978
1873	5				14	101	6400	14530	CLEARWATER R	06 08 956	G W ARGUS	794	GWA
1873	5				14	101	6400	14530	CLEARWATER R	06 08 956	G W ARGUS	797	GWA
1873	5				14	101	6400	14530	CLEARWATER R	21 08 956	G W ARGUS	826	GWA
1873	5				14	101	6400	14530	CLEARWATER R	06 08 956	G W ARGUS	795	ALA 4756
1873	5				14	101	6400	14530	CLEARWATER R	06 08 956	G W ARGUS	794	ALA 4593
1873	5				14	101	6400	14530	CLEARWATER R	21 08 956	G W ARGUS	826	ALA 4621
1873	5				14	101	6400	14530	CLEARWATER R	21 08 956	G W ARGUS	826	ALA 22457
1873	5				14	104	6449	14403	CIRCLE	10 08 963	L SPETZMAN	4970	CAN 299615
1873	5				14	118	6625	14716	GEORGE LAKE	08 961	L SPETZMAN	4631	CAN 299616
1873	5				14	119	6635	14505	FORT YUKON	03 08 963	J TRENT	88	ALA 25740
12	INTERIOR												
1873	12				1	5	5908	11126	SLAVE R	14 06 927	H M RAUP	563	ALA 14488
1873	12				1	10	5854	11135	QTR FOURCHES R	07 06 927	H M RAUP	564	ALA 14487
1873	12				1	20	5642	11120	FORT MCMURRAY	31 05 939	H M RAUP	9043	ALA 16405
1873	12				1	22	5504	11717	VALLEYVIEW	03 06 956	G W ARGUS	261	ALA 4698
1873	12				2	7	5936	12657	COAL R	29 07 943	H M RAUP	10914	ALA 19513
1873	12				2	24	5714	12243	SIKANNI R	20 06 943	H M RAUP	10160	ALA 19518
1873	12				2	24	5714	12243	SIKANNI R	20 06 943	H M RAUP	10159	ALA 19617
1873	12				7	153	6833	12828	ANDERSON RIVER	05 07 965	G W SCOTTER	6908	GWA
1873	12				7	173	6728	13053	THUNDER RIVER	16 07 947	A E PORSILD	16745	GWA
1873	12				7	241	6517	12651	NORMAN WELLS	23 7 953	W J CODY	7492	DAO 21405
1873	12				7	342	6251	12123	FORT SIMPSON	11 06 939	H M RAUP	9069	ALA 16404
1873	12				7	342	6251	12123	FORT SIMPSON	11 06 939	H M RAUP	9070	ALA 16408
1873	12				7	368	6132	12520	S. NAHANNI R	28 6 970	G W SCOTTER	12472	GWA
1873	12				7	370	6158	12145	FT. SIMPSON	11 6 955	W J CODY	8157	GWA
1873	12				7	370	6152	12122	FT. SIMPSON	20 6 955	W J CODY	8273	GWA
1873	12				7	370	6152	12122	FORT SIMPSON	27 06 955	W J CODY	8391	ALA 24395
1873	12				7	388	6005	12347	LIARD RIVER	21 07 961	W J CODY	11492	GWA
1873	12				12	15	6404	13925	DAWSON	06 914	A EASTWOOD	465	CAN 45511
1873	12				12	15	6404	13925	DAWSON	06 06 914	A EASTWOOD	145	CAN 45508
1873	12				12	15	6404	13925	DAWSON	01 06 914	A EASTWOOD	131	CAN 45509
1873	12				12	15	6404	13925	DAWSON	06 06 914	A EASTWOOD	342	CAN 45506
1873	12				12	15	6404	13925	DAWSON	06 06 914	A EASTWOOD	303	CAN 45507
1873	12				12	15	6404	13925	DAWSON	07 08 916	M O MALTE		CAN 122155
1873	12				12	21	6322	13642	STEWART R	04 06 960	J A CALDER	24909	ALA 17427
1873	12				12	41	6010	13442	CARCROSS	14 08 960	L A SPETZMAN	4541	CAN
1873	12				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5032	GWA
1873	12				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5038	GWA
1873	12				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5037	GWA
1873	12				12	44	6002	12835	WATSON LAKE	03 08 943	H M RAUP	10970	GWA
1873	12				12	44	6002	12835	WATSON LAKE	03 08 943	H M RAUP	10970	ALA 19519
1873	12				14	85	6324	14321	TANACROSS	10 07 957	L A SPETZMAN	501	CAN
1873	12				14	86	6353	14451	TANANA R	27 07 965	L A VIERECK	7781	FSLC
1873	12				14	99	6403	15055	BEARPAW MT	18 07 964	L A VIERECK	7335	FSLC 304
1873	12				14	100	6451	14743	FAIRBANKS	10 09 956	G W ARGUS	887	GWA
1873	12				14	100	6451	14743	FAIRBANKS	22 07 956	G W ARGUS	433	GWA
1873	12				14	100	6452	14750	COLLEGE	05 07 957	G W ARGUS	1090	GWA
1873	12				14	100	6451	14743	FAIRBANKS	22 06 956	G W ARGUS	431	GWA
1873	12				14	100	6451	14743	FAIRBANKS	10 09 956	G W ARGUS	887	ALA 4824
1873	12				14	100	6451	14743	FAIRBANKS	10 09 956	G W ARGUS	887	ALA 4758
1873	12				14	100	6451	14743	FAIRBANKS	10 09 956	G W ARGUS	887	ALA 22460
1873	12				14	100	6451	14743	FAIRBANKS	22 07 956	G W ARGUS	433	ALA 4517
1873	12				14	100	6451	14743	FAIRBANKS	22 07 956	G W ARGUS	433	ALA 22491
1873	12				14	100	6452	14750	COLLEGE	05 07 957	G W ARGUS	1090	ALA 6716
1873	12				14	100	6430	14905	NENANA	11 08 941	L J COLE	S.N.	ISC 256691
1873	12				14	100	6430	14905	NENANA	19 06 965	V L HARMS	3722	ALA 32585
1873	12				14	100	6412	14910	NENANA	20 06 965	H SCHMUCK	247	ALA 29849
1873	12				14	100	6443	14809	SAM CHARLEY IS	08 07 966	L A VIERECK	8037	GWA
1873	12				14	100	6439	14908	NENANA	28 06 965	L A VIERECK	7688	GWA
1873	12				14	100	6439	14825	WHISKEY IS	15 06 965	L A VIERECK	7642	FSLC
1873	12				14	104	6550	14404	CIRCLE	19 07 935	J P ANDERSON	2581	ISC 256690
1873	12				14	104	6550	14404	CIRCLE	10 08 963	L A SPETZMAN	4969	CAN
1873	12				14	104	6557	14408	YUKON R	09 07 965	L A VIERECK	7707	FSLC
1873	12				14	106	6530	15010	RAMPART	17 08 961	M T DEAN	78	ALA 19084

Specimens Cited

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB	+ NO
1873	12				14	106	6510	15204	TANANA	29 08 925	L J PALMER	1282	ALA	2035
1873	12				14	119	6634	14516	FORT YUKON	16 06 961	E L LITTLE, JR.	18450	GWA	
1873	12				14	119	6644	14431	PORCUPINE R	12 06 926	M F MURIE	3	ALA	535
1873	12				14	121	6711	14155	PORCUPINE R	12 08 951	J L BUCKLEY	S.N.	GWA	
1873	12				14	121	6711	14155	PORCUPINE R	27 07 957	J L BUCKLEY	204	GWA	
1873	12				14	121	6704	14230	PORCUPINE R	28 07 957	J L BUCKLEY	211	GWA	
1873	12				14	121	6711	14155	PORCUPINE R	12 08 951	J L BUCKLEY	S.N.	ALA	5029
1873	12				14	121	6711	14155	PORCUPINE R	27 07 957	J L BUCKLEY	204	ALA	5096
1873	12				14	121	6711	14155	PORCUPINE R	26 07 957	J L BUCKLEY	204	ALA	26770
1873	12				14	121	6704	14230	PORCUPINE R	28 07 957	J L BUCKLEY	211	ALA	5076
1873	12				14	121	6704	14230	PORCUPINE R	28 07 957	J L BUCKLEY	211	ALA	26763
1873	12				14	121	6715	14140	PORCUPINE R	19 07 957	J L BUCKLEY	113A	ALA	5090
15 PEDICELLARIS														
1873	15				7	345	6227	11421	YELLOWKNIFE	S. D.	J A LARSEN	S.N.	GWA	
1873	15				7	369	6112	12346	YOHIN LAKE	2 7 970	G W SCOTTER	12651	GWA	
1873	15				7	388	6055	12330	BLUE BILL CR	03 08 961	W J CODY	11960	GWA	
1873	15				11	35	5237	10356	MCKAGUE	28 05 938	A J BREITUNG	S.N.	CAN	49130
1873	15				11	35	5237	10356	MCKAGUE	28 05 938	A J BREITUNG	S.N.	CAN	49132
1873	15				12	44	6003	12840	WATSON CREEK	26 6 966	G W ARGUS	5054C	GWA	
1873	15				12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5049	GWA	
1873	15				12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5046	GWA	
1873	15				12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5047	GWA	
1873	15				12	44	6003	12840	WATSON LAKE	05 08 943	H RAUP	11046	CAN	280860
16 PENTANDRA														
1873	16				14	6	5648	13258	PETERSBURG.	19 4 967	G W ARGUS	6837	GWA	
19 PYRIFOLIA														
1873	19				1	27	5430	11715	VALLEYVIEW	3 6 956	G W ARGUS	260	GWA	
1873	19				2	17	5830	12245	PROPHET R	21 6 966	G W ARGUS	4967	GWA	
1873	19				2	49	5320	12245	PRINCE GEORGE.	7 6 967	G W ARGUS	6079	GWA	
1873	19				5	15	4720	5256	BIG COUNTRY PD	9 7 969	G W ARGUS	7481	GWA	
1873	19				7	315	6310	11310	GORDON LAKE	8 961	G W SCOTTER	1248	DAO	36306
1873	19				7	345	6227	11421	YELLOWKNIFE	963	J A LARSEN		GWA	
1873	19				7	345	6227	11421	YELLOWKNIFE	21 7 961	J W THIERET	7990	GWA	
1873	19				7	345	6227	11421	YELLOWKNIFE	17 6 961	J W THIERET	6703	GWA	
1873	19				7	346	6220	11308	HEARNE LAKE	21 6 961	G W SCOTTER	967	DAO	36304
1873	19				7	346	6220	11308	HEARNE LAKE	18 6 961	G W SCOTTER	939	DAO	36305
1873	19				7	346	6220	11308	HEARNE LAKE	21 6 961	G W SCOTTER	964	DAO	36303
1873	19				7	372	6121	11739	FT PROVIDENCE	13 6 961	J W THIERET	6616	GWA	
1873	19				7	375	6110	11153	RUTLEDGE R.	10 8 966	W J CODY	16121	DAO	36310
1873	19				7	375	6135	11045	W RUTLEDGE L.	4 7 962	G W SCOTTER	3043	DAO	36308
1873	19				7	376	6131	10806	PORTER LAKE	27 7 966	W J CODY	15541	DAO	36312
1873	19				7	388	6007	12348	LIARD RIVER	23 7 961	W J CODY	11626	DAO	36309
1873	19				7	388	6055	12330	LIARD RIVER	3 8 961	W J CODY	11983	DAO	36307
1873	19				7	396	6006	10623	SCOTT LAKE	14 8 966	W J CODY	16255	DAO	36311
1873	19				12	8	6612	13625	PALMER LAKE	29 6 960	J A CALDER	26099	DAO	36302
1873	19				12	8	6612	13625	PALMER LAKE	29 6 960	J A CALDER	26099	WTU	206384
20 RIGIDA														
1873	20				2	7	5936	12643	COAL RIVER	12 06 960	J A CALDER	25282	GWA	
1873	20				2	7	5939	12656	LIARD R	24 08 943	H M RAUP	11510	ALA	20057
1873	20				2	24	5714	12243	SIKANNI R	02 07 943	H M RAUP	10408	ALA	20058
1873	20				2	24	5714	12243	SIKANNI R	20 06 943	H M RAUP	10158	ALA	20056
1873	20				2	35	5530	12245	PINE RIVER.	7 6 967	G W ARGUS	6069	GWA	
1873	20				2	49	5320	12245	PRINCE GEORGE.	7 6 967	G W ARGUS	6073	GWA	
1873	20				7	241	6517	12651	NORMAN WELLS	27 7 953	W J CODY	7625	DAO	
1873	20				7	368	6127	12542	FLAT RIVER	30 6 970	G W SCOTTER	12541	GWA	
1873	20				7	388	6005	12347	FORT LIARD	21 07 961	W J CODY	11493	GWA	
1873	20				12	29	6201	13230	PELLY RIVER	25 06 944	A E PORSILD	9886	CAN	47607
1873	20				12	41	6043	13503	WHITEHORSE	29 07 944	A E PORSILD	10662	CAN	47605
1873	20				12	41	6043	13503	WHITEHORSE	01 06 944	A E PORSILD	9155	CAN	47606
1873	20				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5036	GWA	
1873	20				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5029	GWA	
28 1 PLANIFOLIA SSP. PLANIFOLIA														
1873	28 1				1	10	5854	11134	QTR FOURCHES R	06 06 927	H M RAUP	515	ALA	14489
1873	28 1				2	2	5941	13632	CHILKAT PASS.	13 7 967	G W ARGUS	6816	GWA	
1873	28 1				2	2	5941	13632	CHILKAT PASS.	13 7 967	G W ARGUS	6818	GWA	
1873	28 1				2	2	5941	13632	CHILKAT PASS.	13 7 967	G W ARGUS	6817	GWA	
1873	28 1				2	2	5936	13627	HAINES RD M68	06 07 956	T M TAYLOR	888	DAO	32745
1873	28 1				2	2	5936	13627	HAINES RD M68	06 07 956	T M TAYLOR	888	DAO	32747
1873	28 1				2	4	5958	13206	MORLEY LAKE	17 05 960	J A CALDER	24461	GWA	
1873	28 1				2	4	5958	13206	MORLEY LAKE	17 05 960	J A CALDER	24463	GWA	
1873	28 1				2	4	5958	13206	MORLEY LAKE	17 05 960	J A CALDER	24463	DAO	32775
1873	28 1				2	4	5958	13206	MORLEY LAKE	17 05 960	J A CALDER	24461	DAO	32766
1873	28 1				2	5	5953	13127	SWAN LAKE	31 05 960	J A CALDER	24841	DAO	19073
1873	28 1				2	6	5951	12908	CASSIAR RD M16	30 05 960	J A CALDER	24832	GWA	
1873	28 1				2	6	5951	12908	CASSIAR RD M16	30 05 960	J A CALDER	24832	DAO	32770
1873	28 1				2	14	5822	12955	DEASE L VILLAG	13 8 969	K RIGBY	271	DTF	1149

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	28	1			02	16	5831	12434	SUMMIT PASS	19 07 943	H M RAUP	10662	ALA 20040
1873	28	1			02	17	5848	12332	STEAMBOAT	08 05 960	J A CALDER	24362	GWA
1873	28	1			02	17	5848	12332	STEAMBOAT	08 05 960	J A CALDER	24359	GWA
1873	28	1			02	17	5848	12332	STEAMBOAT	08 05 960	J A CALDER	24360	GWA
1873	28	1			02	17	5848	12332	STEAMBOAT	08 05 960	J A CALDER	24361	GWA
1873	28	1			02	17	5848	12332	STEAMBOAT	08 05 960	J A CALDER	24362	DAO 32778
1873	28	1			02	17	5848	12332	STEAMBOAT	08 05 960	J A CALDER	24359	DAO 32769
1873	28	1			02	17	5848	12332	STEAMBOAT	08 05 960	J A CALDER	24360	DAO 32768
1873	28	1			02	17	5848	12332	STEAMBOAT	08 05 960	J A CALDER	24361	DAO 32777
1873	28	1			02	24	5705	12235	BEATTON RIVER	13 06 943	H M RAUP	10075	ALA 22023
1873	28	1			02	24	5705	12235	BEATTON RIVER	10 06 943	H M RAUP	10027	ALA 20036
1873	28	1			02	24	5705	12235	BEATTON RIVER	10 06 943	H M RAUP	10021	ALA 20029
1873	28	1			02	24	5705	12235	BEATTON RIVER	10 06 943	H M RAUP	10013	ALA 20035
1873	28	1			02	24	5705	12235	BEATTON RIVER	12 06 943	H M RAUP	10043	ALA 20034
1873	28	1			02	24	5705	12235	BEATTON RIVER	10 06 943	H M RAUP	10022	ALA 20030
1873	28	1			02	31	5643	12133	BLUEBERRY	26 05 960	J A CALDER	24654	DAO 32773
1873	28	1			02	79	4905	12011	CATHEDRAL L	04 08 956	J A CALDER	19790	DAO 19320
1873	28	1			07	241	6517	12651	NORMAN WELLS	04 06 957	W J CODY	9559	DAO 32623
1873	28	1			07	241	6517	12651	NORMAN WELLS	17 07 953	W J CODY	7328	DAO 32583
1873	28	1			07	275	6432	12635	STERILE LAKE	23 07 967	N M SIMMONS	154	DAO 32592
1873	28	1			07	275	6431	12634	STERILE LAKE	01 07 967	N M SIMMONS	39	DAO 32591
1873	28	1			07	313	6335	11002	MUNN LAKE	03 08 966	W J CODY	15851	DAO 32580
1873	28	1			07	316	6302	11057	INDAIN MT L	08 08 966	W J CODY	15963	DAO 32578
1873	28	1			07	338	6300	12902	O GRADY LAKE	25 07 967	W J CODY	16489	DAO 32663
1873	28	1			07	338	6222	12842	SELWYN MTS	09 08 967	W J CODY	17871	DAO 32574
1873	28	1			07	339	6205	12735	BRINTNELL LAKE	20 06 939	H M RAUP	9150	ALA
1873	28	1			07	339	6205	12735	BRINTNELL LAKE	20 06	H M RAUP	9148	ALA 14843
1873	28	1			07	345	6227	11422	YELLOWKNIFE	04 07 949	W J CODY	2398	DAO 32627
1873	28	1			07	345	6227	11422	YELLOWKNIFE	02 07 949	W J CODY	2357	DAO 32626
1873	28	1			07	345	6227	11422	YELLOWKNIFE	23 06 949	W J CODY	2218	DAO 32594
1873	28	1			07	345	6227	11422	YELLOWKNIFE	13 06 949	W J CODY	2107	DAO 32625
1873	28	1			07	345	6227	11422	YELLOWKNIFE	12 06 949	W J CODY	2091	DAO 32582
1873	28	1			07	345	6227	11422	YELLOWKNIFE	28 06 949	W J CODY	2209	DAO 32630
1873	28	1			07	345	6227	11422	YELLOWKNIFE	18 06 949	W J CODY	2168	DAO 32628
1873	28	1			07	345	6227	11422	YELLOWKNIFE	23 06 949	R P HALL	2	DAO 32629
1873	28	1			07	345	6227	11422	YELLOWKNIFE	17 06 961	J W THIERET	6661A	DAO 32600
1873	28	1			07	345	6227	11422	YELLOWKNIFE	13 06 961	J W THIERET	6603	DAO 32601
1873	28	1			07	346	6220	11308	HEARNE LAKE	17 06 961	G W SCOTTER	906	DAO 32604
1873	28	1			07	349	6220	10625	LYNX LAKE	23 07 966	W J CODY	15292	DAO 32576
1873	28	1			07	350	6218	10425	MANTIC LAKE	26 07 966	W J CODY	154488	DAO 26489
1873	28	1			7	368	6108	12427	S. NAHANNI R.	2 7 970	G W SCOTTER	12679	GWA
1873	28	1			07	369	6117	11947	TROUT RIVER	30 06 961	W J CODY	11366	DAO 32620
1873	28	1			07	370	6147	12043	FORT SIMPSON	07 06 955	W J CODY	8100	DAO 32617
1873	28	1			07	370	6152	12122	FORT SIMPSON	13 06 955	W J CODY	8197	DAO 32613
1873	28	1			07	370	6152	12122	FORT SIMPSON	07 06 955	W J CODY	8080	DAO 32612
1873	28	1			07	370	6152	12122	FORT SIMPSON	27 06 961	W J CODY	11339	DAO 32622
1873	28	1			07	370	6152	12122	FORT SIMPSON	13 06 955	W J CODY	8196	DAO 32619
1873	28	1			07	370	6152	12122	FORT SIMPSON	15 06 955	W J CODY	8244	DAO 32614
1873	28	1			07	370	6152	12122	FORT SIMPSON	08 06 955	W J CODY	8114	DAO 32616
1873	28	1			07	370	6152	12122	FORT SIMPSON	11 06 955	W J CODY	8150	DAO 32615
1873	28	1			07	370	6152	12122	FORT SIMPSON	07 06 955	W J CODY	8079	DAO 32618
1873	28	1			07	371	6128	11801	HORN R DELTA	18 08 956	C D BIRD	186	DAO 32593
1873	28	1			7	371	6117	11947	TROUT RIVER	30 6 961	W J CODY	11365	DAO 3262
1873	28	1			07	373	6143	11453	LONG ISLAND	22 07 951	W H LEWIS	762	DAO 32590
1873	28	1			07	374	6123	11245	ROCHER RIVER	01 08 965	W J CODY	14344	DAO 32595
1873	28	1			07	374	6104	11307	MCCONNELL IS	03 08 965	W J CODY	14484	DAO 32599
1873	28	1			07	374	6118	11339	SLAVE RIVER	16 06 927	H M RAUP	513	ALA 14606
1873	28	1			07	375	6155	11010	N GAGNON LAKE	29 06 962	G W SCOTTER	3039	DAO 32602
1873	28	1			07	375	6135	11045	E RUTLEDGE L	01 07 962	G W SCOTTER	3041	DAO 32603
1873	28	1			07	376	6131	10806	PORTER LAKE	27 07 966	W J CODY	15542	DAO 32577
1873	28	1			07	376	6131	10806	PORTER LAKE	27 07 966	W J CODY	15501	DAO 32579
1873	28	1			07	388	6014	12323	FORT LIARD	25 07 961	W J CODY	11697	DAO 32606
1873	28	1			07	391	6058	11720	KAKISA RIVER	16 06 959	J W THIERET	4541	DAO 32611
1873	28	1			07	391	6058	11720	KAKISA RIVER	16 06 959	J W THIERET	4527	DAO 32607
1873	28	1			07	391	6058	11720	KAKISA RIVER	16 06 959	J W THIERET	4540	DAO 32609
1873	28	1			07	391	6058	11720	KAKISA RIVER	16 06 959	J W THIERET	4542	DAO 32610
1873	28	1			07	391	6053	11721	KAKISA LAKE	21 06 959	J W THIERET	4625	DAO 32608
1873	28	1			07	392	6051	11542	HAY RIVER	28 05 951	W H LEWIS	201	DAO 32585
1873	28	1			07	392	6051	11542	HAY RIVER	03 06 951	W H LEWIS	224	DAO 32587
1873	28	1			07	392	6051	11542	HAY RIVER	03 06 951	W H LEWIS	225	DAO 32588
1873	28	1			07	392	6051	11542	HAY RIVER	11 06 951	W H LEWIS	258	DAO 32586
1873	28	1			07	394	6003	11200	FT SMITH	20 07 965	W J CODY	13753	DAO 32598
1873	28	1			07	394	6003	11200	FT SMITH	20 07 965	W J CODY	13752	DAO 32597
1873	28	1			07	394	6002	11238	FT SMITH	02 06 950	W J CODY	3711	DAO 32584
1873	28	1			07	394	6000	11153	FT SMITH	31 05 950	W J CODY	3674	DAO 32575
1873	28	1			07	394	6052	11034	LADY GREY L	31 07 965	W J CODY	14281	DAO 32596
1873	28	1			07	395	6006	10623	SCOTT LAKE	14 08 966	W J CODY	16258	DAO 32581
1873	28	1			07	395	6006	10623	SCOTT LAKE	14 08 966	W J CODY	16259	DAO 26492
1873	28	1			07	396	6047	10738	SPEARFISH LAKE	30 07 966	W J CODY	15641	DAO 26490
1873	28	1			07	397	6100	10500	SMALL TREE L	23 07 961	J S MAINI	499	DAO 32605
1873	28	1			07	402	6050	9425	MCCONNELL R	02 07 964	K L MACINNES	25	UWO
1873	28	1			07	402	6050	9425	MCCONNELL R	03 07 964	K L MACINNES	24	UWO
1873	26	1			07	402	6050	9425	MCCONNELL R	06 964	K L MACINNES	133	UWO
1873	28	1			07	402	6050	9425	MCCONNELL R	26 06 964	K L MACINNES	17	UWO
1873	28	1			07	402	6050	9425	MCCONNELL R	10 07 967	K L MACINNES	606	UWO
1873	28	1			07	402	6050	9425	MCCONNELL R	10 07 967	K L MACINNES	604	UWO
1873	28	1			12	32	6115	13844	ALA HWY M1073	07 08 948	H M RAUP	13992	ALA 20025
1873	28	1			12	32	6122	13843	KLUANE LAKE	08 07 944	H M RAUP	12355	ALA 20031
1873	28	1			12	32	6122	13859	BURWASH	03 08 948	H M RAUP	13933	ALA 20024
1873	28	1			12	34	6137	13553	CONGLOMERATE M	14 05 960	J A CALDER	24404	GWA
1873	28	1			12	34	6137	13553	CONGLOMERATE M	14 05 960	J A CALDER	24404	DAO 32757

Specimens Cited

```
TAXON SPC S V HYB PROV QUAD  LAT  LONG   LOCALITY        DATE      COLLECTOR NAME   COL NO HERB + NO

1873   28 1         12   40 6045 13615 MENDENHALL R    30 06 966 G W ARGUS          5084 GWA
1873   28 1         12   40 6047 13735 PINE CREEK      02 06 948 H M RAUP          13026 ALA   19913
1873   28 1         12   40 6047 13735 PINE CREEK      02 06 948 H M RAUP          13034 ALA   19914
1873   28 1         12   40 6047 13735 PINE CREEK      17 06 944 H M RAUP          11802 ALA   20039
1873   28 1         12   40 6047 13735 PINE CREEK      17 06 944 H M RAUP          11802 GWA
1873   28 1         12   40 6047 13736 MACKINTOSH      07 07 957 W R SCHOFIELD      7587 CAN  269642
1873   28 1         12   41 6010 13442 CARCROSS        16 05 960 J A CALDER        24448 GWA
1873   28 1         12   41 6010 13442 CARCROSS        02 06 960 J A CALDER        24930 GWA
1873   28 1         12   41 6010 13442 CARCROSS        02 06 960 J A CALDER        24930 DAO   32759
1873   28 1         12   41 6010 13442 CARCROSS        16 05 960 J A CALDER        24448 DAO   32758
1873   28 1         12   41 6043 13503 WHITEHORSE      11 08 949 J M GILLETT        4422 DAO   32764
1873   28 1         12   41 6043 13503 WHITEHORSE      04 06 949 J M GILLETT        3197 DAO   32761
1873   28 1         12   41 6038 13500 MACRAE          28 06 949 J M GILLETT        3527 DAO   32762
1873   28 1         12   41 6053 13532 TAKHINI RIVER   11 06 949 J M GILLETT        3287 DAO   32763
1873   28 1         12   41 6049 13519 ALA HWY M927    03 06 949 D A MITCHELL         13 DAO   32765
1873   28 1         12   41 6043 13503 WHITEHORSE      01 06 944 A E PORSILD        9148 ISC  256265
1873   28 1         12   42 6003 13218 ALA HWY M784    17 05 960 J A CALDER        24465 DAO   32760
1873   28 1         12   43 6005 13035 RANCHERIA       20 06 948 J P ANDERSON      10397 ISC  256266
1873   28 1         12   43 6005 13035 RANCHERIA       27 08 966 G W ARGUS          6017 GWA
1873   28 1         12   43 6005 13035 RANCHERIA       22 08 966 G W ARGUS          6020 GWA
1873   28 1         12   44 6003 12840 WATSON LAKE     25 06 966 G W ARGUS          5042 GWA
1873   28 1         12   44 6003 12840 WATSON LAKE     25 06 966 G W ARGUS          5052 GWA
1873   28 1         12   44 6003 12852 LIARD RIVER     04 08 943 H M RAUP          11040 ALA   20038
1873   28 1         12   44 6003 12852 LIARD RIVER     04 08 943 H M RAUP          11040 SASK   8652
1873   28 1         12   44 6007 12931 ALA HWY M667    29 06 968 S L WELSH          7483 GWA


 28 3 2  PLANIFOLIA SSP. PULCHRA VAR. YUKONENSIS

1873   28 3 2       02    2 5941 13632 CHILKAT PASS.   13  7 967 G W ARGUS          6819 GWA
1873   28 3 2       02    2 5941 13632 CHILKAT PASS.   13  7 967 G W ARGUS          6819 GWA
1873   28 3 2       02    2 5941 13632 CHILKAT PASS.   13  7 967 G W ARGUS          6819 GWA
1873   28 3 2       02    2 5935 13629 MT  GLAVE       14  7 967 G W ARGUS          6793 GWA
1873   28 3 2       07  117 7013 12940 CAPE DALHOUSIE  31 07 963 W J CODY          13144 DAO   32679
1873   28 3 2       07  133 6931 13348 KIDLUIT BAY     10 07 957 W J CODY           9965 DAO   32635
1873   28 3 2       07  133 6938 13254 TOKER PT        28 07 957 W J CODY          10337 DAO   32636
1873   28 3 2       07  134 6942 129   ANDERSON R      15 06 962 T W BARRY           341 DAO   32697
1873   28 3 2       07  134 6956 12858 NICHOLSON PEN   28 06 963 J A PARMELEE       2559 DAO   32676
1873   28 3 2       07  134 6921 12813 ANDERSON R      11 07 965 G W SCOTTER        6928 GWA
1873   28 3 2       07  134 6921 12813 ANDERSON R                G W SCOTTER        6928 DAO   32642
1873   28 3 2       07  152 6842 13408 REINDEER STAT   27 06 957 W J CODY           9690 DAO    5724
1873   28 3 2       07  152 6842 13408 REINDEER STAT   12 06 957 W J CODY           9591 DAO    5711
1873   28 3 2       07  152 6906 13037 ESKIMO LAKES    08 07 963 W J CODY          12587 DAO   32698
1873   28 3 2       07  152 6819 13340 INUVIK          16 06 957 W J CODY           9620 DAO   32693
1873   28 3 2       07  152 6854 13314 ESKIMO LAKES    09 08 957 W J CODY          10599 DAO   32682
1873   28 3 2       07  152 6852 13205 ESKIMO LAKES    18 07 957 W J CODY          10126 DAO   32691
1873   28 3 2       07  152 6852 13205 ESKIMO LAKES    18 07 957 W J CODY          10126 DAO   32637
1873   28 3 2       07  152 6906 13237 ESKIMO LAKES    18 07 957 W J CODY          10137 DAO   32692
1873   28 3 2       07  152 6813 13500 AKLAVIK         26 06 957 W J CODY           9671 DAO   32681
1873   28 3 2       07  152 6813 13500 AKLAVIK         26 06 957 W J CODY           9670 DAO   32680
1873   28 3 2       07  152 6842 13408 REINDEER STAT   23 06 957 W J CODY           9661 DAO   32685
1873   28 3 2       07  152 6842 13408 REINDEER STAT   12 06 957 W J CODY           9592 DAO   32684
1873   28 3 2       07  152 6842 13408 REINDEER STAT   17 06 957 W J CODY           9626 DAO   32678
1873   28 3 2       07  152 6842 13408 REINDEER STAT   27 06 957 W J CODY           9689 DAO   32686
1873   28 3 2       07  152 6842 13408 REINDEER STAT   16 06 964 J A LARSEN         7025 GWA
1873   28 3 2       07  152 6813 13547 CANOE LAKE      19 06 964 J A LARSEN         7027 GWA
1873   28 3 2       07  152 6845 13412 MACK R E BR     18 07 934 A E PORSILD        6976 GWA
1873   28 3 2        7  152 6820 13330 INUVIK          29  6 970 S L WELSH         10016 OTF    1195
1873   28 3 2       07  181 6750 11510 COPPERMINE      30 07 951 W T FINDLAY         212 DAO   32689
1873   28 3 2       07  307 6300 12902 O GRADY LAKE    23 07 967 W J CODY          16431 DAO   32661
1873   28 3 2       07  348 6243 10909 FT RELIANCE     22 07 964 J A LARSEN         7015 GWA
1873   28 3 2       12    4 6812 13845 CROW FLATS      24  6 970 J K RIGBY            56 OTF    1194
1873   28 3 2       12    4 6825 13800 SAM LAKE        30  6 970 S L WELSH         10027 OTF    1197
1873   28 3 2       12    5 6725 14100 RAMPART HOUSE   30 07 951 C C LOAN            672 GWA
1873   28 3 2       12    5 6725 14100 RAMPART HOUSE   27 05 951 C C LOAN            369 GWA
1873   28 3 2       12    5 6725 14100 RAMPART HOUSE         951 C C LOAN            668 GWA
1873   28 3 2       12   15 6404 13925 DAWSON          25 06 914 A   EASTWOOD        373 US   892177
1873   28 3 2       12   15 6404 13925 DAWSON          25 06 914 A   EASTWOOD        373 US  2441253
1873   28 3 2       12   15 6404 13925 DAWSON          25 06 914 A   EASTWOOD        373 A
1873   28 3 2       12   15 6404 13925 DAWSON          11 06 914 A   EASTWOOD        182 US   892178
1873   28 3 2       12   15 6405 14019 SIXTYMI RD M21  26 06 966 S L WELSH          5591 GWA
1873   28 3 2       12   30 6300 13012 CANOL RD M268   28 08 944 A E PORSILD       11346 CAN   49581
1873   28 3 2       12   30 6252 13015 CANOL RD M259   22 08 944 A E PORSILD       11384 ISC  256438
1873   28 3 2       12   34 6111 13512 LAKE LABERGE          932     BEAUCHAMP     S.N.  ALA     542
1873   28 3 2       12   40 6051 13747 ALA HWY M1028   18 06 944 H M RAUP          11807 ALA   20059
1873   28 3 2       12   42 6022 13351 LTL ATLIN L     13 08 943 H M RAUP          11242 ALA   20042
1873   28 3 2       14   72 6150 15617 KUSKOKWIM R.    15  7 949 W H DRURY          2007 CAN
1873   28 3 2       14   72 6142 15711 SLEITMUT        11  7 949 W H DRURY          1942 CAN
1873   28 3 2       14   77 6205 16343 MOUNTAIN VILGE  06 07 950 B R OAKENSON         20 ISC  256416
1873   28 3 2       14   83 6225 14451 TOKSLA HWY M20  24 06 944 J P ANDERSON       8712 ISC  256437
1873   28 3 2       14   84 6252 14128 ALA HWY M1247   15 07 944 J P ANDERSON       9108 ISC  256473
1873   28 3 2       14   85 6335 14218 TAYLOR HWY M26  27 06 963 J   NAVA              73 ALA   23954
1873   28 3 2       14   85 6327 14228 TAYLOR HWY M15  21 06 963 J   NAVA             102 ALA   23952
1873   28 3 2       14   85 6323 14345 NUTZOTIN MTS    12 08 944 H M RAUP          12777 ALA   20032
1873   28 3 2       14   85 6323 14330 ALA HWY M1237   23 06 966 L A VIERECK        7988 GWA
1873   28 3 2       14   86 6347 14430 GEROGE LAKE     10 08 964 V L HARMS          3163 ALA   32607
1873   28 3 2       14   86 6356 14655 W FK LTL DELTA  10 07 941 L J PALMER          629 ALA    5195
1873   28 3 2       14   86 6356 14655 W FK LTL DELTA     07 941 L J PALMER          629 ISC  256450
1873   28 3 2       14   99 6500 15038 MANLEY HOT SPR  19 07 945 E   SCAMMAN        3690 GWA
1873   28 3 2       14   99 6431 15012 KANTISHNA R     14 07 964 L A VIERECK        7286 FSLC    305
1873   28 3 2       14  100 6451 14743 FAIRBANKS       10 05 940 J P ANDERSON       6081 ISC  256444
```

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB	+ NO
1873	28	3	2		14	100	6452	14750	COLLEGE	14 07 957	G W ARGUS	1108	ALA	6715
1873	28	3	2		14	100	6452	14752	SMITH L	14 06 956	G W ARGUS	301	ALA	4759
1873	28	3	2		14	100	6452	14752	SMITH L	14 06 956	G W ARGUS	301	ALA	22459
1873	28	3	2		14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1007	ALA	6727
1873	28	3	2		14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1006	ALA	6725
1873	28	3	2		14	100	6454	14750	GOLDSTREAM CR	05 07 966	G W ARGUS	5090	GWA	
1873	28	3	2		14	100	6452	14755	ACE LAKE	19 06 956	G W ARGUS	392	GWA	
1873	28	3	2		14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1006	GWA	
1873	28	3	2		14	100	6452	14750	COLLEGE	14 07 957	G W ARGUS	1108	GWA	
1873	28	3	2		14	100	6452	14752	SMITH L	14 06 956	G W ARGUS	301	GWA	
1873	28	3	2		14	100	6452	14752	SMITH L	14 06 956	G W ARGUS	320	GWA	
1873	28	3	2		14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1007	GWA	
1873	28	3	2		14	100	6452	14750	COLLEGE	07 07 966	G W ARGUS	5106	GWA	
1873	28	3	2		14	100	6452	14750	COLLEGE	02 06 965	V L HARMS	3418	ALA	32588
1873	28	3	2		14	100	6452	14750	COLLEGE	27 05 965	V L HARMS	3377	ALA	32659
1873	28	3	2		14	100	6452	14750	COLLEGE	27 05 965	V L HARMS	3376	ALA	32658
1873	28	3	2		14	100	6452	14752	SMITH L	26 05 965	V L HARMS	3346	ALA	32652
1873	28	3	2		14	100	6452	14750	COLLEGE	03 06 965	V L HARMS	3444	ALA	32633
1873	28	3	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	194	ALA	5265
1873	28	3	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	191	ALA	5264
1873	28	3	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	155	ALA	5266
1873	28	3	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	177	ALA	5268
1873	28	3	2		14	100	6451	14743	FAIRBANKS	20 07 931	L J PALMER	14	ALA	5972
1873	28	3	2		14	100	6452	14752	SMITH L	05 06 956	S G SMITH	1	ALA	10741
1873	28	3	2		14	100	6448	14756	CHENA	06 06 955	S G SMITH	4	ALA	10744
1873	28	3	2		14	100	6450	14710	FAIRBANKS	06 07 966	Y SUDA	17766	GWA	
1873	28	3	2		14	100	6451	14658	CHENA R	19 09 966	L A VIERECK	8126A	GWA	
1873	28	3	2		14	100	6448	14744	FAIRBANKS	19 05 965	L A VIERECK	8056	FSLC	
1873	28	3	2		14	100	6448	14744	FAIRBANKS	19 05 965	L A VIERECK	7535	FSLC	
1873	28	3	2		14	100	6447	14745	CHENA PUMP RD	17 04 964	L A VIERECK	7149	FSLC	
1873	28	3	2		14	100	6447	14745	CHENA PUMP RD	17 04 964	L A VIERECK	7511	FSLC	
1873	28	3	2		14	100	6452	14752	UNIV EXP FARM	17 04 964	L A VIERECK	7147	FSLC	283
1873	28	3	2		14	101	6454	14625	CHENA RIVER	06 07 966	G W ARGUS	5102	GWA	
1873	28	3	2		14	101	6454	14625	CHENA RIVER	06 07 966	G W ARGUS	5097	GWA	
1873	28	3	2		14	101	6454	14625	CHENA RIVER	06 07 966	G W ARGUS	5099	GWA	
1873	28	3	2		14	101	6454	14625	CHENA RIVER	06 07 966	G W ARGUS	5096	GWA	
1873	28	3	2		14	101	6454	14625	CHENA RIVER	06 07 966	G W ARGUS	5098	GWA	
1873	28	3	2		14	102	6405	14156	CHICKEN	06 08 951	E SCAMMAN	6299	GWA	
1873	28	3	2		14	104	6531	14513	STEES HWY M115	13 06 945	E SCAMMAN	3495	GWA	
1873	28	3	2		14	104	6523	14554	STEESE HWY M92	22 06 957	S G SHETLER	195AF	ALA	3789
1873	28	3	2		14	104	6527	14526	EAGLE CR CAMP	12 06 966	J N TRENT	666	ALA	32693
1873	28	3	2		14	104	6559	14411	CIRCLE	12 07 965	L A VIERECK	7726	FSLC	
1873	28	3	2		14	105	6512	14805	WICKERSHAM DOM	19 08 965	V L HARMS	4985	ALA	32589
1873	28	3	2		14	105	6502	14740	FOX	01 06 965	V L HARMS	3407	ALA	32587
1873	28	3	2		14	105	6502	14740	FOX	02 06 964	V L HARMS	2634	ALA	32623
1873	28	3	2		14	105	6502	14740	FOX	02 06 964	V L HARMS	2636	ALA	32622
1873	28	3	2		14	105	6502	14740	FOX	02 06 964	V L HARMS	2633	ALA	32568
1873	28	3	2		14	119	6654	14516	FT YUKON	949	M T COOK	S.N.	ISC	256418
1873	28	3	2		14	120	6644	14334	FISH HOOK CR	04 07 957	S G SHETLER	329AF	ALA	3880
1873	28	3	2		14	120	6644	14334	FISH HOOK CR	06 07 957	S G SHETLER	383AF	ALA	3906
1873	28	3	2		14	120	6644	14334	FISH HOOK CR	11 07 957	S G SHETLER	480AF	ALA	3966
1873	28	3	2		14	121	6723	14350	SMALL LAKE	30 07 957	S G SHETLER	794AF	ALA	4169
1873	28	3	2		14	121	6723	14350	SMALL LAKE	03 08 957	S G SHETLER	881AF	ALA	4216
1873	28	3	2		14	141	6922	15210	UMIAT	23 05 964	L A VIERECK	7505	GWA	
1873	28	3	2		14	141	6922	15210	UMIAT	23 05 964	L A VIERECK	7176	GWA	
1873	28	3	2		14	149	7033	15142	ATIGARU PT	29 08 947	R F BLACK	S.N.	ISC	256428

28 3 3 PLANIFOLIA SSP. PULCHRA VAR. PULCHRA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB	+ NO
1873	28	3	3		02	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6761	GWA	
1873	28	3	3		02	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6756	GWA	
1873	28	3	3		02	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6754	GWA	
1873	28	3	3		02	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6771	GWA	
1873	28	3	3		02	2	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6786	GWA	
1873	28	3	3		02	2	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6790	GWA	
1873	28	3	3		02	2	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6792	GWA	
1873	28	3	3		02	2	5936	13627	HAINES RD MI60	08 07 956	T M TAYLOR	1174	DAO	32746
1873	28	3	3		02	2	5936	13627	HAINES RD MI60	08 07 956	T M TAYLOR	1174	DAO	32749
1873	28	3	3		02	2	5935	13627	THREEGUARDSMAN	04 08 967	L A VIERECK	8535	GWA	
1873	28	3	3		02	4	5945	13230	ATLIN LAKE	12 07 954	J D AITKEN	21	DAO	32771
1873	28	3	3		02	4	5938	13325	SURPRISE LAKE	09 06 960	J A CALDER	25195	DAO	32743
1873	28	3	3		02	6	5917	12951	CASSIAR	17 06 956	T M TAYLOR	363	DAO	32750
1873	28	3	3		02	6	5917	12951	CASSIAR	17 06 956	T M TAYLOR	363	DAO	32744
1873	28	3	3		02	6	5917	12951	CASSIAR	19 06 956	T M TAYLOR	431	DAO	32748
1873	28	3	3		02	7	5958	12734	ALA HWY M581	18 06 960	J A CALDER	25643	DAO	32772
1873	28	3	3		02	17	5822	12248	ALA HWY M258	21 05 960	J A CALDER	24535	GWA	
1873	28	3	3		02	17	5822	12248	ALA HWY M258	21 05 960	J A CALDER	24535	DAO	32767
1873	28	3	3		02	24	5705	12235	BEATTON RIVER	10 06 943	H M RAUP	10019	ALA	20027
1873	28	3	3		02	24	5705	12235	BEATTON RIVER	10 06 943	H M RAUP	10020	ALA	20028
1873	28	3	3		02	24	5705	12235	BEATTON RIVER	10 0 43	H M RAUP	10018	ALA	20037
1873	28	3	3		02	30	5659	12312	ALA HWY M128	26 05 960	J A CALDER	24648	GWA	
1873	28	3	3		02	30	5659	12312	ALA HWY M128	26 05 960	J A CALDER	24650	DAO	32774
1873	28	3	3		02	30	5659	12312	ALA HWY M128	26 05 960	J A CALDER	24648	DAO	32776
1873	28	3	3		07	117	7013	12940	CAPE DALHOUSIE	31 07 963	W J CODY	13143	DAO	32688
1873	28	3	3		07	133	6935	13355	SUMMER ISLAND	21 07 963	W J CODY	13029	DAO	32683
1873	28	3	3		07	133	6931	13348	RICHARDS IS	10 07 957	W J CODY	9966	DAO	32669
1873	28	3	3		07	133	6931	13348	RICHARDS IS	10 07 957	W J CODY	9986	DAO	32670
1873	28	3	3		07	133	6931	13348	RICHARDS IS	22 07 957	W J CODY	10152	DAO	32667
1873	28	3	3		07	133	6827	13350	MACK R E BR	24 06 957	W J CODY	9664	DAO	32668
1873	28	3	3		07	133	6930	13347	RICHARDS IS	24 07 966	G W SCOTTER	10118	GWA	

Specimens Cited

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	28	3	3		07	133	6826	13255	TUKTOYAKTUK	13 08 965	G W SCOTTER	6996	GWA
1873	28	3	3		07	133	6826	13255	TUKTOYAKTUK	13 08 965	G W SCOTTER	6996	DAO 32644
1873	28	3	3		07	134	6947	13102	MCKINLEY BAY	15 08 957	W J CODY	10928	DAO 32671
1873	28	3	3		07	134	6925	12816	ANDERSON R	13 07 965	G W SCOTTER	6931	DAO 32643
1873	28	3	3		07	134	6925	12816	ANDERSON R	23 07 965	G W SCOTTER	6956	DAO 32641
1873	28	3	3		07	152	6857	13234	ESKIMO LAKE	06 08 957	W J CODY	10518	DAO 32654
1873	28	3	3		07	152	6813	13554	CANOE LAKE	16 07 963	W J CODY	12807	DAO 32639
1873	28	3	3		07	152	6813	13554	CANOE LAKE	16 07 963	W J CODY	12813	DAO 32638
1873	28	3	3		07	152	6813	13554	CANOE LAKE	16 07 963	W J CODY	12818	DAO 32687
1873	28	3	3		07	152	6813	13554	CANOE LAKE	18 07 963	W J CODY	12974	DAO 32640
1873	28	3	3		07	152	6842	13408	REINDEER STN	27 06 957	W J CODY	9691	DAO 5712
1873	28	3	3		07	152	6842	13408	REINDEER STN	10 06 957	W J CODY	9570	DAO 32672
1873	28	3	3		07	152	6842	13408	REINDEER STN	12 06 957	W J CODY	9590	DAO 5725
1873	28	3	3		07	152	6842	13408	REINDEER STN	10 06 957	W J CODY	9577	DAO 5742
1873	28	3	3		07	152	6842	13408	REINDEER STN	13 07 957	W J CODY	10025	DAO 32673
1873	28	3	3		07	152	6842	13408	REINDEER STN	10 06 957	W J CODY	9567	DAO 32674
1873	28	3	3		07	152	6842	13406	REINDEER STN	16 06 964	J A LARSEN	7024	GWA
1873	28	3	3		07	152	6820	13337	INUVIK	13 06 964	J A LARSEN	7026	GWA
1873	28	3	3		07	152	6813	13547	CANOE LAKE	26 06 964	J A LARSEN	7028	GWA
1873	28	3	3		07	152	6839	13406	REINDEER STN	03 08 965	G W SCOTTER	6973	GWA
1873	28	3	3		07	152	6848	13424	REINDEER STN	31 07 965	G W SCOTTER	6968	GWA
1873	28	3	3		07	153	6812	13115	HYNDMAN LAKE	07 07 966	G W SCOTTER	10102	GWA
1873	28	3	3		07	181	6750	11510	COPPERMINE	28 06 951	W I FINDLAY	42	DAO 32632
1873	28	3	3		07	181	6750	11510	COPPERMINE	24 06 951	W T FINDLAY	37	DAO 32631
1873	28	3	3		07	181	6750	11510	COPPERMINE	28 06 951	W I FINDLAY	43	DAO 32633
1873	28	3	3		07	181	6750	11510	COPPERMINE	28 06 951	W T FINDLAY	46	DAO 32634
1873	28	3	3		07	218	6604	10828	BATHURST INLET	24 07 949	J WOODRUFF	898	DAO 32645
1873	28	3	3		07	283	6405	11115	MATTHEWS LAKE	30 06 953	J G CHILLCOTT	35	DAO 32647
1873	28	3	3		07	283	6405	11115	MATTHEWS LAKE	30 06 953	J G CHILLCOTT	39	DAO 32649
1873	28	3	3		07	283	6405	11115	MATTHEWS LAKE	30 06 953	J G CHILLCOTT	37	DAO 32646
1873	28	3	3		07	283	6405	11115	MATTHEWS LAKE	21 06 953	J G CHILLCOTT	14	DAO 32651
1873	28	3	3		07	283	6405	11115	MATTHEWS LAKE	30 06 953	J G CHILLCOTT	36	DAO 32652
1873	28	3	3		07	283	6405	11115	MATTHEWS LAKE	18 06 953	J G CHILLCOTT	4	DAO 32653
1873	28	3	3		07	283	6405	11115	MATTHEWS LAKE	30 06 953	J G CHILLCOTT	38	DAO 32648
1873	28	3	3		07	284	6445	10810	MUSKOX LAKE	07 08 953	J G CHILLCOTT	169	DAO 32589
1873	28	3	3		07	284	6405	10830	AYLMER LAKE	05 08 965	J A LARSEN	8245	GWA
1873	28	3	3		07	285	6404	10759	THANAKOIE NAR	07 08 965	J A LARSEN	S.N.	GWA
1873	28	3	3		07	306	6310	13008	MACMILLAN PASS	31 08 944	A E PORSILD	11229	TSC 256439
1873	28	3	3		07	307	6331	12840	JUNE LAKE	02 08 967	W J CODY	17314	DAO 32657
1873	28	3	3		07	338	6202	12810	FLAT RIVER	08 08 967	W J CODY	17823	DAO 32658
1873	28	3	3		07	338	6202	12810	FLAT RIVER	08 08 967	W J CODY	17736	DAO 32659
1873	28	3	3		07	338	6303	12855	O GRADY LAKE	28 07 967	W J CODY	16859	DAO 32662
1873	28	3	3		07	338	6300	12902	O GRADY LAKE	25 07 967	W J CODY	16478	DAO 32664
1873	28	3	3		07	338	6202	12810	FLAT RIVER	08 08 967	K W SPICER	1698	DAO 32656
1873	28	3	3		07	339	6242	12640	LTL DAL LAKE	06 08 967	W J CODY	17653	DAO 32655
1873	28	3	3		07	339	6205	12735	BRINTNELL L	26 06 939	H M RAUP	9299	ALA 14763
1873	28	3	3		07	339	6205	12735	BRINTNELL L	21 06 939	H M RAUP	9230	ALA 14764
1873	28	3	3		07	367	6142	12710	HOLE IN WALL L	10 08 967	W J CODY	17938	DAO 32660
1873	28	3	3		07	367	6142	12710	HOLE IN WALL L	10 08 967	K W SPICER	1799	DAO 32666
1873	28	3	3		12	4	6856	13712	SHINGLE POINT	15 07 963	J A PARMELEE	2791	DAO 32756
1873	28	3	3		12	4	6850	13845	TROUT LAKE	1 7 970	S L WELSH	10121	BRY 91146
1873	28	3	3		12	4	6825	13800	SAM LAKE	30 6 970	S L WELSH	10023	OTF 1193
1873	28	3	3		12	4	6840	13907	BABBAGE CREEK	3 7 970	S L WELSH	10195	OTF 1196
1873	28	3	3		12	4	6857	13705	BLOW RIVER	06 08 964	P YOUNGMAN	5383	CAN
1873	28	3	3		12	5	6746	14015	OLD CROW MT	20 07 964	P YOUNGMAN	500	CAN
1873	28	3	3		12	15	6458	13825	OGILVIE MT	27 06 966	R T PORSILD	17	CAN
1873	28	3	3		12	15	6409	13953	SIXTYML RD M12	26 06 966	S L WELSH	5580	GWA
1873	28	3	3		12	21	6350	13731	BARLOW	05 06 960	J A CALDER	25058	GWA
1873	28	3	3		12	22	6357	13510	KENO HILL	06 08 949	J M GILLETT	4395	DAO 32751
1873	28	3	3		12	30	6249	13043	CANOL RD M245	21 08 944	A E PORSILD	11418	CAN
1873	28	3	3		12	35	6140	13302	CANAL RD M105	11 06 944	A F PORSILD	9333	CAN
1873	28	3	3		12	40	6047	13735	BEAR CREEK	18 06 944	H M RAUP	11808	GWA
1873	28	3	3		12	40	6047	13735	BEAR CREEK	18 06 944	H M RAUP	11808	ALA 20041
1873	28	3	3		12	43	6005	13035	RANCHERIA	22 08 966	G W ARGUS	6021	GWA
1873	28	3	3		12	43	6005	13035	RANCHERIA	22 08 966	G W ARGUS	6021	GWA
1873	28	3	3		14	29	5505	16202	BELKOFSKY	933	O W GEIST		ALA 29388
1873	28	3	3		14	32	5657	15410	AKHIOK	26 05 940	E H LOOFF	1191	US 2441271
1873	28	3	3		14	34	5735	15400	UYAK BAY	26 05 938	J P ANDERSON	3131	TSC 256468
1873	28	3	3		14	34	5713	15314	SHEEP ISLAND	06 963	R GORDON	2747	WIS
1873	28	3	3		14	35	5732	15359	LARSON BAY	933	O W GEIST	S.N.	ALA 29398
1873	28	3	3		14	35	5705	15425	OLGA BAY	18 05 938	H H LOOFF	320	GWA
1873	28	3	3		14	36	5732	15725	UGASHIK	25 07 967	D STREUBEL	S.N.	ALA 34727
1873	28	3	3		14	38	5635	16935	ST GEORGE IS	08 08 945	J P ANDERSON	S.N.	TSC 256504
1873	28	3	3		14	39	5834	16146	CAPE PEIRCE	2 7 970	L DICK	235	GWA
1873	28	3	3		14	39	5834	16146	CAPE PEIRCE	8 6 970	L DICK	221	GWA
1873	28	3	3		14	39	5840	16102	HAGEMEISTER IS	22 06 966	R PEGAU	W12	GWA
1873	28	3	3		14	39	5840	16102	HAGEMEISTER IS	22 06 966	R PEGAU	W12	ALA 32702
1873	28	3	3		14	41	5811	15600	CONTACT CREEK	06 09 954	V H CAHALANE	30	TSC 219360
1873	28	3	3		14	41	5844	15747	KVICHAK BAY	05 06 951	E H MULLER	589	TSC 224500
1873	28	3	3		14	41	5844	15747	KVICHAK BAY	05 06 951	E H MULLER	590	TSC 224495
1873	28	3	3		14	41	5844	15747	KVICHAK BAY	05 06 951	E H MULLER	592	TSC 224497
1873	28	3	3		14	41	5844	15747	KVICHAK BAY	08 06 951	E H MULLER	593	TSC 224496
1873	28	3	3		14	41	5842	15640	NAKNEK	25 06 949	H M RAUP	5	TSC 219353
1873	28	3	3		14	41	5845	15637	NAKNEK	03 07 949	K A RAUP	76	TSC 219351
1873	28	3	3		14	41	5841	15639	KING SALMON	06 07 952	W B SCHOFIELD	2011	GWA
1873	28	3	3		14	41	5843	15701	NAKNEK	03 07 952	W B SCHOFIELD	1942	ALA 17432
1873	28	3	3		14	42	5835	15550	DUMPLING MT TR	29 05 967	C ESTABROOK	127	ALA 34694
1873	28	3	3		14	43	5804	15304	PORT VITA	31 05 945	W J EYERDAM	3679	TSC 256432
1873	28	3	3		14	43	5805	15305	IRON CREEK	12 10 945	W J EYERDAM	4056	TSC 256431
1873	28	3	3		14	50	5947	15150	ANCHOR POINT	13 06 967	L A VIERECK	8265	GWA
1873	28	3	3		14	51	5920	15555	IGIUGIG	21 07 965	V L HARMS	4364	ALA 32560

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	28	3	3		14	56	6024	17242	ST MATTHEWS IS	16 07 938	J P ANDERSON	3947	ISC 255907
1873	28	3	3		14	57	6023	16611	MEKORYUK RIVER	17 07 965	G BOS	S.N.	ALA 32287
1873	28	3	3		14	57	6015	16614	MEKORYUK	22 07 965	R PEGAU	W17	GWA
1873	28	3	3		14	57	6015	16614	MEKORYUK	17 06 949	D L SPENCER	8	ISC 256417
1873	28	3	3		14	62	6033	15116	KENAI	31 05 951	J A CALDER	5004	GWA
1873	28	3	3		14	62	6003	15140	NINILCHIK	13 06 967	L A VIERECK	8258	GWA
1873	28	3	3		14	63	6029	14922	MOOSE PASS	01 06 941	J P ANDERSON	6471	ISC 256446
1873	28	3	3		14	63	6029	14922	MOOSE PASS	17 06 941	J P ANDERSON	6815	ISC 256447
1873	28	3	3		14	68	6108	14544	THOMPSON PASS	05 07 935	J P ANDERSON	1891	ISC 256454
1873	28	3	3		14	68	6148	14512	RICH HWY M90	01 08 967	L A VIERECK	8453	GWA
1873	28	3	3		14	69	6135	14930	PALMER	06 08 947	DUTILLY	21963	DAO 32754
1873	28	3	3		14	69	6115	14920	CHUGACH MTS	11 07 948	E LEPAGE	23446	DAO 32755
1873	28	3	3		14	69	6115	14920	CHUGACH MTS	11 07 948	E LEPAGE	23446	ISC
1873	28	3	3		14	69	6115	14920	CHUGACH MTS	11 07 948	E LEPAGE	23446	ISC 256470
1873	28	3	3		14	69	6115	14920	CHUGACH MTS	11 07 948	E LEPAGE	23462	ISC 256469
1873	28	3	3		14	69	6140	14900	MATANUSKA VY	940	L J PALMER	395	ALA 5961
1873	28	3	3		14	69	6140	14900	MATANUSKA VY	24 6 940	L J PALMER	121	ALA 5168
1873	28	3	3		14	69	6140	14900	MATANUSKA VY	940	L J PALMER	395	ALA 5962
1873	28	3	3		14	69	6140	14900	MATANUSKA VY	940	L J PALMER	394	ALA 5960
1873	28	3	3		14	69	6140	14900	MATANUSKA VY	24 06 940	L J PALMER	121	US 2441270
1873	28	3	3		14	69	6116	14941	FT RICHARDSON	12 07 965	S L WELSH	4590	ALA 29907
1873	28	3	3		14	69	6158	14708	GLENN HWY M134	28 06 965	S L WELSH	4462	ISC 246047
1873	28	3	3		14	69	6116	14941	FT RICHARDSON	12 07 965	S L WELSH	4590	ISC 246931
1873	28	3	3		14	71	6152	15433	HEAD OF BIG R.	4 6 950	W H DRURY	3977	CAN
1873	28	3	3		14	71	6152	15433	HEAD OF BIG R.	2 6 950	W H DRURY	3954	CAN
1873	28	3	3		14	71	6152	15433	HEAD OF BIG R.	3 7 950	W H DRURY	3911	CAN
1873	28	3	3		14	72	6139	15717	SLEITMUT	11 7 949	W H DRURY	1934	CAN
1873	28	3	3		14	73	6137	15930	ANIAK REGION	18 6 949	W H DRURY	1463	CAN
1873	28	3	3		14	73	6131	15937	ANIAK REGION	28 6 949	W H DRURY	1642	CAN
1873	28	3	3		14	73	6132	15927	ANIAK REGION	20 6 949	W H DRURY	1577	CAN
1873	28	3	3		14	73	6131	15937	ANIAK REGION	28 6 949	W H DRURY	1643	CAN
1873	28	3	3		14	73	6137	15930	ANIAK REGION	18 6 949	W H DRURY	1440	CAN
1873	28	3	3		14	73	6128	15939	ANIAK REGION	28 6 949	W H DRURY	1695	CAN
1873	28	3	3		14	73	6137	15930	ANIAK REGION	18 6 949	W H DRURY	1505	CAN
1873	28	3	3		14	73	6131	16021	KALSKOG R	18 06 930	W P MILLER	260C	ALA 2020
1873	28	3	3		14	75	6200	16600	KOKECHIK BAY	03 07 960	N G JONES	50	ALA 24422
1873	28	3	3		14	79	6259	15604	TAKOTNA	27 07 941	J P ANDERSON	7445	ALA 545
1873	28	3	3		14	79	6259	15604	TAKOTNA	27 07 941	J P ANDERSON	7445	ISC 256449
1873	28	3	3		14	80	6247	15544	MCGRATH	22 7 949	W H DRURY	2172	CAN
1873	28	3	3		14	80	6257	15536	MCGRATH	13 6 949	W H DRURY	1366	CAN
1873	28	3	3		14	81	6219	15006	TALKEETNA	11 08 941	J P ANDERSON	7711	ISC 256448
1873	28	3	3		14	81	6229	15128	CHELATNA LAKE	14 06 961	E L LITTLE, JR.	18425	GWA
1873	28	3	3		14	81	6240	15230	KUSKOKWIM R	01 08 961	L A VIERECK	5234	GWA
1873	28	3	3		14	81	6240	15230	KUSKOKWIM R	29 07 961	L A VIERECK	5178	GWA
1873	28	3	3		14	81	6225	15125	CHELATNA LAKE	21 06 956	L A VIERECK	1021	GWA
1873	28	3	3		14	81	6225	15125	CHELATNA LAKE	21 06 956	L A VIERECK	1036	GWA
1873	28	3	3		14	81	6225	15125	CHELATNA LAKE	21 06 956	L A VIERECK	1024	ALA 3497
1873	28	3	3		14	81	6225	15125	CHELATNA LAKE	21 06 956	L A VIERECK	1021	ALA 11612
1873	28	3	3		14	81	6225	15125	CHELATNA LAKE	21 06 956	L A VIERECK	1036	ALA 11615
1873	28	3	3		14	81	6240	15230	KUSKOKWIM R	01 08 961	L A VIERECK	5234	FSLC
1873	28	3	3		14	81	6240	15230	KUSKOKWIM R	29 07 961	L A VIERECK	5178	FSLC
1873	28	3	3		14	83	6225	14451	TOKSLA HWY M20	24 06 944	J P ANDERSON	8713	ISC 256007
1873	28	3	3		14	83	6206	14542	GLENNALLEN	10 06 967	L A VIERECK	8211	GWA
1873	28	3	3		14	85	6322	14232	TAYLOR HWY M5	21 06 963	J NAVA	96	ALA 23953
1873	28	3	3		14	86	6315	14540	MCCALLUM CR	19 06 957	G W ARGUS	1034	GWA
1873	28	3	3		14	86	6315	14540	MCCALLUM CR	19 06 957	G W ARGUS	1034	ALA 6732
1873	28	3	3		14	86	6330	14535	RAINBOW MT	09 06 965	V L HARMS	3570	ALA 32655
1873	28	3	3		14	86	6347	14430	GEORGE LAKE	10 08 964	V L HARMS	3165	ALA 32612
1873	28	3	3		14	86	6345	14433	ALA HWY M1380	10 08 944	H M RAUP	12758	ALA 20033
1873	28	3	3		14	87	6344	14855	MCKINLEY PARK	30 06 939	A NELSON	3588	ALA 544
1873	28	3	3		14	87	6344	14855	MCKINLEY PARK	30 06 939	A NELSON	3588	ISC 256451
1873	28	3	3		14	87	6344	14855	MCKINLEY PARK	940	L J PALMER	422	ALA 5633
1873	28	3	3		14	87	6355	14725	DRY CR	23 06 962	L A VIERECK	5700	GWA
1873	28	3	3		14	88	6335	14935	IGLOO CREEK	28 07 956	G W ARGUS	692	GWA
1873	28	3	3		14	88	6332	15058	KANTISHNA	25 07 956	G W ARGUS	652	GWA
1873	28	3	3		14	88	6325	15030	MULDROW GL	27 07 956	G W ARGUS	666	GWA
1873	28	3	3		14	88	6325	15030	MULDROW GL	27 07 956	G W ARGUS	665	GWA
1873	28	3	3		14	88	6332	15058	KANTISHNA	25 07 956	G W ARGUS	652	ALA 4559
1873	28	3	3		14	88	6335	14935	IGLOO CREEK	28 07 956	G W ARGUS	692	ALA 4592
1873	28	3	3		14	88	6325	15030	MULDROW GL	27 07 956	G W ARGUS	666	ALA 4905
1873	28	3	3		14	88	6325	15030	MULDROW GL	27 07 956	G W ARGUS	665	ALA 4906
1873	28	3	3		14	88	6325	15050	WONDER LAKE	27 06 958	L A VIERECK	3098	GWA
1873	28	3	3		14	88	6325	15035	MCKINLEY R	21 07 958	L A VIERECK	3231	GWA
1873	28	3	3		14	88	6325	15035	MCKINLEY R	20 06 958	L A VIERECK	3039	GWA
1873	28	3	3		14	88	6325	15035	MCKINLEY R	22 06 958	L A VIERECK	3063	GWA
1873	28	3	3		14	88	6327	15045	MCKINLEY R	20 06 958	L A VIERECK	3041	GWA
1873	28	3	3		14	88	6327	15045	MCKINLEY R	05 07 958	L A VIERECK	3156	GWA
1873	28	3	3		14	88	6327	15045	MCKINLEY R	20 06 958	L A VIERECK	3040	GWA
1873	28	3	3		14	89	6301	15532	TAKONTA R.	23 8 950	W H DRURY	4662	CAN
1873	28	3	3		14	89	6315	15517	NIXON FORK	10 6 950	W H DRURY	3624	CAN
1873	28	3	3		14	90	6310	15631	OPHIR	26 06 940	E SCAMMAN	1830	GWA
1873	28	3	3		14	90	6310	15631	OPHIR	26 06 940	E SCAMMAN	1830	ALA 8393
1873	28	3	3		14	91	6352	16047	UNALAKLEET	12 06 938	J P ANDERSON	32678	ISC 256435
1873	28	3	3		14	91	6352	16047	UNALAKLEET	12 06 938	J P ANDERSON	3267	ISC 256466
1873	28	3	3		14	92	6329	16202	ST MICHAEL	19 06 938	J P ANDERSON	3447	ISC 256436
1873	28	3	3		14	92	6335	16230	STUART ISLAND	29 07 931	C H ROUSE	22	ALA 2055
1873	28	3	3		14	92	6335	16230	STUART ISLAND	29 07 931	C H ROUSE	22	ALA 25447
1873	28	3	3		14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	35	ALA 25429
1873	28	3	3		14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	34	ALA 25433
1873	28	3	3		14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	35	ALA 22049
1873	28	3	3		14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	34	ALA 2040

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	28	3	3		14	92	6300	16250	PASTOLIK	25 07 931	C H ROUSE	26	ALA 2056
1873	28	3	3		14	92	6300	16250	PASTOLIK	25 07 931	C H ROUSE	26	ALA 25446
1873	28	3	3		14	92	6259	16318	PASTOLIK	19 07 931	C H ROUSE	29	ALA 2053
1873	28	3	3		14	92	6259	16318	PASTOLIK	19 07 931	C H ROUSE	29	ALA 25448
1873	28	3	3		14	93	6347	17145	GAMBELL	09 06 938	J P ANDERSON	3219	TSC 256464
1873	28	3	3		14	93	6342	17029	SAVOONGA	27 06 938	J P ANDERSON	3694	TSC 256463
1873	28	3	3		14	93	6330	17030	ST LAWRENCE IS	933	O W GEIST	S.N.	ALA 29392
1873	28	3	3		14	93	6330	17030	ST LAWRENCE IS	933	O W GEIST	S.N.	ALA 29393
1873	28	3	3		14	93	6330	17045	ST LAWRENCE IS	933	O W GEIST	S.N.	ALA 29735
1873	28	3	3		14	93	6330	17030	ST LAWRENCE IS	933	O W GEIST	S.N.	ALA 29391
1873	28	3	3		14	93	6330	17030	ST LAWRENCE IS	17 08 933	O W GEIST	S.N.	ALA 29739
1873	28	3	3		14	93	6320	17136	BOXER BAY	12 08 933	O W GEIST	010	ALA 29425
1873	28	3	3		14	93	6320	17136	BOXER BAY	933	O W GEIST	13	ALA 29422
1873	28	3	3		14	93	6334	17053	KANGEE CAMP	933	O W GEIST	S.N.	ALA 29389
1873	28	3	3		14	94	6430	16530	NOME	11 06 938	J P ANDERSON	3241	TSC 256465
1873	28	3	3		14	94	6430	16530	NOME	15 06 964	C HELLER	1053	ALA 27072
1873	28	3	3		14	94	6435	16530	NOME	16 06 966	R PEGAU	W6	GWA
1873	28	3	3		14	94	6434	16533	NOME	21 06 968	R PEGAU	9468	GWA
1873	28	3	3		14	94	6435	16530	NOME	16 06 966	R PEGAU	W6	ALA 32706
1873	28	3	3		14	95	6433	16302	GOLOVIN	17 06 938	J P ANDERSON	3425	TSC 256467
1873	28	3	3		14	95	6433	16302	GOLOVIN	02 07 924	L F RYNNING	1069	ALA 2032
1873	28	3	3		14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	13	ALA 25431
1873	28	3	3		14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	17	ALA 2064
1873	28	3	3		14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	15	ALA 25427
1873	28	3	3		14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	15	ALA 2061
1873	28	3	3		14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	15	ALA 25444
1873	28	3	3		14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	15	TSC 256445
1873	28	3	3		14	100	6451	14743	FAIRBANKS	17 06 933	L J PALMER	210	ALA 5982
1873	28	3	3		14	101	6345	14554	DONNELLY DOME	08 06 965	V L HARMS	3546	ALA 32637
1873	28	3	3		14	101	6345	14554	DONNELLY DOME	02 07 964	V L HARMS	2866	ALA 32602
1873	28	3	3		14	101	6345	14554	DONNELLY DOME	08 06 965	V L HARMS	3538	ALA 32640
1873	28	3	3		14	101	6345	14554	DONNELLY DOME	01 07 964	V L HARMS	2840	ALA 32644
1873	28	3	3		14	101	6345	14554	DONNELLY DOME	02 07 964	V L HARMS	2862	ALA 32603
1873	28	3	3		14	101	6433	14455	INDIAN CREEK	29 06 956	A W JOHNSON	46	ALA 7064
1873	28	3	3		14	104	6529	14526	EAGLE SUMMIT	06 07 965	V L HARMS	3858	ALA 32653
1873	28	3	3		14	104	6547	14656	VICTORIA MT	26 06 953	D KLEIN	S.N.	ALA 23092
1873	28	3	3		14	104	6531	14513	MILLER HOUSE	12 07 940	E SCAMMAN	2046	GWA
1873	28	3	3		14	104	6531	14513	MILLER HOUSE	13 06 945	E SCAMMAN	3495	GWA
1873	28	3	3		14	104	6522	14556	STEES HWY M89	24 06 957	S G SHETLER	214AF	ALA 3800
1873	28	3	3		14	104	6522	14556	STEES HWY M89	20 06 957	S G SHETLER	161AF	ALA 3774
1873	28	3	3		14	104	6522	14556	TWELVE MILE CR	17 06 957	S G SHETLER	87AF	ALA 3735
1873	28	3	3		14	104	6523	14557	TWELVEMI SUMIT	19 06 957	S G SHETLER	120AF	ALA 3758
1873	28	3	3		14	104	6522	14556	TWELVE MILE CR	16 06 957	S G SHETLER	59AF	ALA 3715
1873	28	3	3		14	104	6527	14526	EAGLE CREEK	12 06 966	J N TRENT	466	ALA 32695
1873	28	3	3		14	104	6527	14526	EAGLE CREEK	17 06 965	J N TRENT	5265	ALA 30668
1873	28	3	3		14	105	6512	14805	WICKERSHAM DOM	18 08 964	V L HARMS	3878B	ALA 33341
1873	28	3	3		14	105	6512	14805	WICKERSHAM DOM	04 06 965	V L HARMS	3473C	ALA 32627
1873	28	3	3		14	105	6512	14805	WICKERSHAM DOM	17 06 965	V L HARMS	3663	ALA 32582
1873	28	3	3		14	105	6512	14805	WICKERSHAM DOM	04 06 965	V L HARMS	3473A	ALA 32628
1873	28	3	3		14	108	6448	14545	DONNELLY DOME	25 07 967	L A VIERECK	8329	GWA
1873	28	3	3		14	110	6536	16313	IMURUK LAKE	947	J G SIEH	73	TSC 256433
1873	28	3	3		14	110	6536	16313	IMURUK LAKE	01 07 947	J G SIEH	7	TSC 256434
1873	28	3	3		14	111	6537	16805	WALES	19 08	J P ANDERSON	4936	TSC 256459
1873	28	3	3		14	111	6516	16622	TELLER	24 06 938	J P ANDERSON	3575	TSC 256456
1873	28	3	3		14	111	6516	16622	TELLER	23 06 938	J P ANDERSON	3523A	TSC 256462
1873	28	3	3		14	111	6458	16804	KING ISLAND	08 06 959	G J HARBO	S.N.	ALA 24826
1873	28	3	3		14	111	6509	16553	IMURUK BASIN	18 07 968	R PEGAU	27468	GWA
1873	28	3	3		14	113	6654	16235	KOTZEBUE	12 08 938	J P ANDERSON	4708	TSC 256457
1873	28	3	3		14	113	6655	16231	KOTZEBUE	11 08 966	G W ARGUS	5977	GWA
1873	28	3	3		14	113	6655	16240	KOTZEBUE	09 07 966	S L WELSH	5736	GWA
1873	28	3	3		14	114	6658	16026	KIANA		O D CLARK	S.N.	ALA 10190
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	3	ALA 2069
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	2	ALA 25424
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	2	ALA 2072
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	1	ALA 25423
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	1	ALA 2071
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	5	ALA 25422
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	5	ALA 2070
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	4	ALA 2073
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	4	ALA 25436
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	4	ALA 25425
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	7	ALA 25428
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	7	ALA 2067
1873	28	3	3		14	114	6616	16120	ELEPHANT POINT	18 09 931	C H ROUSE	6	ALA 2068
1873	28	3	3		14	114	6617	16153	CHORIS PEN	15 09 931	C H ROUSE	9	ALA 2066
1873	28	3	3		14	114	6617	16153	CHORIS PEN	15 09 931	C H ROUSE	9	ALA 25432
1873	28	3	3		14	114	6617	16153	CHORIS PEN	15 09 931	C H ROUSE	8	ALA 2065
1873	28	3	3		14	120	6644	14334	BIG LAKE	04 07 957	S G SHETLER	337AF	ALA 3882
1873	28	3	3		14	121	6710	14210	PORCUPINE R	25 07 957	J L BUCKLEY	203	GWA
1873	28	3	3		14	121	6710	14210	PORCUPINE R	25 07 957	J L BUCKLEY	203	ALA 5036
1873	28	3	3		14	125	6757	15312	EASTER CREEK	06 08 965	V STAENDER	62	ALA
1873	28	3	3		14	126	6743	15609	ISIAK LAKE	02 08 960	P C LENT	14	ALA 29337
1873	28	3	3		14	128	6744	16432	KIVALINA	10 08 938	J P ANDERSON	4626	TSC 256460
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	15	ALA 26559
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	10	ALA 26591
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	10	ALA 26557
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	13	ALA 26575
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	12	ALA 26593
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	11	ALA 26558
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	11	ALA 26592
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	14	ALA 26574

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	14	ALA 26574
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	9	ALA 26588
1873	28	3	3		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	15	ALA 26590
1873	28	3	3		14	129	6821	16647	POINT HOPE	08 08 938	J P ANDERSON	4577B	TSC 256461
1873	28	3	3		14	129	6853	16613	CAPE LISBURNE	07 08 938	J P ANDERSON	4500	TSC 256441
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5944	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5946	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	16 07 959	A W JOHNSON	400	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	17 06 959	A W JOHNSON	4	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	14 08 959	A W JOHNSON	726	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	20 06 959	A W JOHNSON	44	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	27 06 959	A W JOHNSON	188	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	27 06	A W JOHNSON	438	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	27 06	A W JOHNSON	189	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	27 06 959	A W JOHNSON	439	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	27 06	A W JOHNSON	720	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	27 06 959	A W JOHNSON	721	GWA
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	17 06 959	A W JOHNSON	4	ALA 9186
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	14 08 959	A W JOHNSON	726	ALA 9171
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	20 06 959	A W JOHNSON	44	ALA 9185
1873	28	3	3		14	129	6806	16545	OGOTORUK CREEK	16 07 959	A W JOHNSON	400	ALA 9168
1873	28	3	3		14	129	6842	16615	CAPE DYER	23 07 960	L A VIERECK	4260	ALA 13226
1873	28	3	3		14	134	6805	15030	ULO LAKE	06 07 963	J A FLOCK	40	ALA 21742
1873	28	3	3		14	134	6805	15030	ULO LAKE	02 07 963	J A FLOCK	19	ALA 21719
1873	28	3	3		14	134	6805	15030	ULO LAKE	02 07 963	J A FLOCK	19	ALA 21721
1873	28	3	3		14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5909	GWA
1873	28	3	3		14	141	6923	15210	UMIAT	12 07 949	G M FROHNE	49180	ALA 21805
1873	28	3	3		14	141	6923	15210	UMIAT	31 07 948	E LEPAGE	23678	DAO 32752
1873	28	3	3		14	141	6923	15210	UMIAT	27 07 966	Y SUDA	24866	GWA
1873	28	3	3		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	27566	GWA
1873	28	3	3		14	141	6923	15210	UMIAT	27 07 966	Y SUDA	24366	GWA
1873	28	3	3		14	141	6923	15210	UMIAT	28 07 966	Y SUDA	26066	GWA
1873	28	3	3		14	141	6923	15210	UMIAT	28 07 966	Y SUDA	25966	GWA
1873	28	3	3		14	142	6952	15350	IKPIKPUK R	04 09 947	R F BLACK	S.N.	TSC 256420
1873	28	3	3		14	142	6945	15450	IKPIKPUK R	14 07 959	O W GEIST	S.N.	ALA 28024
1873	28	3	3		14	142	6942	15450	IKPIKPUK RIVER	10 07 959	O W GEIST	S.N.	ALA 28159
1873	28	3	3		14	142	6939	15450	IKPIKPUK RIVER	09 07 959	O W GEIST	S.N.	ALA 28952
1873	28	3	3		14	142	6939	15450	IKPIKPUK RIVER	09 07 959	O W GEIST	S.N.	ALA 27985
1873	28	3	3		14	142	6942	15450	IKPIKPUK RIVER	10 07 959	O W GEIST	B	ALA 29310
1873	28	3	3		14	144	6948	16050	UTUKOK R	30 08 947	R F BLACK	S.N.	TSC 256443
1873	28	3	3		14	144	6956	15957	KAOLAK RIVER	09 07 958	S SHUSHAN	S.N.	WIS
1873	28	3	3		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5468	GWA
1873	28	3	3		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5560	GWA
1873	28	3	3		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5559	GWA
1873	28	3	3		14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5393	GWA
1873	28	3	3		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5556	GWA
1873	28	3	3		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5579	GWA
1873	28	3	3		14	146	7038	16002	WAINWRIGHT	04 08 938	J P ANDERSON	4357	TSC 256442
1873	28	3	3		14	146	7015	16121	NEVAT PT	07 948	W N IRVING	S.N.	ALA 3109
1873	28	3	3		14	146	7015	16121	NEVAT PT	27 06 948	W N IRVING	S.N.	ALA 3108
1873	28	3	3		14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5278	GWA
1873	28	3	3		14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5279	GWA
1873	28	3	3		14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5200	GWA
1873	28	3	3		14	147	7051	15848	PEARD BAY	05 08 947	R F BLACK	57F	TSC 256421
1873	28	3	3		14	147	7028	15725	MEADE RIVER PO	07 08 960	O W GEIST	S.N.	ALA 29035
1873	28	3	3		14	147	7028	15700	MEADE RIVER PO	08 08 960	O W GEIST	S.N.	ALA 28951
1873	28	3	3		14	148	7059	15434	CAPE SIMPSON	30 08 946	R F BLACK	S.N.	TSC 256423
1873	28	3	3		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5722	GWA
1873	28	3	3		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5721	GWA
1873	28	3	3		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5720	GWA
1873	28	3	3		14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5852	GWA
1873	28	3	3		14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5865	GWA
1873	28	3	3		14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5864	GWA
1873	28	3	3		14	152	7005	14335	BARTER ISLAND	26 06 951	F S BARKALOW	P17	TSC 256427
1873	28	3	3		14	153	7120	15640	BARROW	04 08 938	J P ANDERSON	4299	TSC 256440
1873	28	3	3		14	153	7120	15640	BARROW	12 07 966	G W ARGUS	5175	GWA
1873	28	3	3		14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5162	GWA
1873	28	3	3		14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5165	GWA
1873	28	3	3		14	153	7120	15640	BARROW	13 07 966	G W ARGUS	5187	GWA
1873	28	3	3		14	153	7120	15640	BARROW	13 07 966	G W ARGUS	5186	GWA
1873	28	3	3		14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5161	GWA
1873	28	3	3		14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5164	GWA
1873	28	3	3		14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5163A	GWA
1873	28	3	3		14	153	7120	15640	BARROW	12 07 966	G W ARGUS	5176	GWA
1873	28	3	3		14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5163	GWA
1873	28	3	3		14	153	7030	15600	POINT BARROW	07 08 946	R F BLACK	S.N.	TSC 256429
1873	28	3	3		14	153	7114	15656	BARROW	10 08 946	R F BLACK	S.N.	TSC 256424
1873	28	3	3		14	153	7120	15640	BARROW	30 07 947	R F BLACK	42F	TSC 256422
1873	28	3	3		14	153	7120	15640	BARROW	20 07 950	R F BLACK	15	TSC 256425
1873	28	3	3		14	153	7030	15600	POINT BARROW	04 08 960	O W GEIST	S.N.	ALA 28099
1873	28	3	3		14	153	7030	15600	POINT BARROW	08 947	P F SCHOLANDER	S.N.	TSC 256426
1873	28	3	3		14	153	7116	15643	POINT BARROW	08 07 959	S G SHETLER	3139	ALA 17453
1873	28	3	3		14	153	7117	15648	BARROW	20 06 950	J H THOMAS	2012	ALA 6548
1873	28	3	3		14	153	7116	15640	BARROW	02 07 950	J H THOMAS	2022	ALA 6549
1873	28	3	3		14	153	7117	15644	BARROW	23 06 950	J H THOMAS	2014	TSC 224853
1873	28	3	3		14	153	7116	15640	BARROW	02 07 950	J H THOMAS	2022	TSC 224825
1873	28	3	3		14	153	7117	15648	BARROW	20 06 950	J H THOMAS	2012	TSC 224852
1873	28	3	3		14	153	7120	15640	BARROW	07 08 949	S S TILLETT	58	TSC 256430
1873	28	3	3		14	153	7114	15656	BARROW	13 07 952	G H WARD	1119	ALA 6565
1873	28	3	3		14	153	7114	15656	BARROW	13 07 952	G H WARD	1118	TSC 224912
1873	28	3	3		14	153	7114	15656	BARROW	13 07 952	G H WARD	1119	TSC 224876

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	28	3	3		14	153	7116	15640	BARROW	04 07 952	G H WARD	1094	ISC 224877
1873	28	3	3		14	153	7119	15640	BARROW	26 06 952	G H WARD	1081	ISC 224824
1873	28	3	3		14	153	7120	15640	POINT BARROW	07 07 966	S L WELSH	5701	GWA
1873	28	3	3		14	153	7117	15647	BARROW	12 07 950	I L WIGGINS	12428	ISC 224823

32 COMMUTATA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	32				2	2	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6698	GWA
1873	32				2	2	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6730	GWA
1873	32				2	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6774	GWA
1873	32				2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6811	GWA
1873	32				2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6806	GWA
1873	32				2	2	5947	13636	HAINES RD M70	04 08 967	L A VIERECK	8553	GWA
1873	32				2	4	5910	13358	LLEWELLYN GL	15 07 914	A EASTWOOD	664	A
1873	32				2	16	5831	12434	SUMMIT PASS	19 07 943	H M RAUP	10668	ALA 19851
1873	32				2	24	5723	12248	BUCKINGHORSE R	03 09 943	H M RAUP	11630	GWA
1873	32				2	24	5723	12248	BUCKINGHORSE R	03 09 943	H M RAUP	11630	ALA 19852
1873	32				2	65	5130	11830	REVELSTOKE	08 06 953	J A CALDER	8869	GWA
1873	32				2	65	5150	11815	KINBASKET R	23 05 958	R L TAYLOR	768A	GWA
1873	32				7	338	6257	12858	OGRADY L.	27 7 967	W J CODY	16730	DAO
1873	32				7	338	6202	12810	SEWLYN MTS.	8 8 967	W J CODY	17768	DAO
1873	32				7	338	6202	12810	FLAT RIVER	8 8 967	W J CODY	17773	DAO 58175
1873	32				7	339	6241	12750	GRIZZLY BEAR L	10 8 967	W J CODY	17999	DAO 58178
1873	32				7	339	6205	12735	BRINTNELL LAKE	03 08 939	H M RAUP	9692	ALA 14821
1873	32				7	339	6205	12735	BRINTNELL LAKE	18 07 939	H M RAUP	9505	ALA 14809
1873	32				7	339	6205	12735	BRINTNELL LAKE	18 07 939	H M RAUP	9501	GWA
1873	32				7	339	6205	12735	BRINTNELL LAKE	18 07 939	H M RAUP	9503	GWA
1873	32				7	339	6205	12735	BRINTNELL LAKE	16 07 939	H M RAUP	9499	GWA
1873	32				7	339	6205	12735	BRINTNELL LAKE	18 07 939	H M RAUP	9505	GWA
1873	32				7	339	6205	12735	BRINTNELL LAKE	18 07 939	H M RAUP	9501	ALA 14802
1873	32				7	339	6205	12735	BRINTNELL LAKE	16 07 939	H M RAUP	9499	ALA 14807
1873	32				12	30	6257	13009	ITSI RANGE	31 07 960	J A CALDER	27718	US 2349263
1873	32				12	30	6240	13112	CANOL RD M234	10 08 944	A E PORSILD	11673	ISC 256386
1873	32				12	30	6238	13108	CANOL RD M222	17 08 944	A E PORSILD	11673	GH
1873	32				12	30	6300	13025	CANOL RD M268	28 08 944	A E PORSILD	11343	GH
1873	32				12	35	6130	13302	CANOL RD M95	15 07 944	A E PORSILD	10559	ISC 256387
1873	32				12	35	6130	13302	CANOL RD M95	15 07 944	A E PORSILD	10559	GH
1873	32				14	10	5838	13625	GEIKE INLET	29 06 928	J P ANDERSON	753	ISC 256388
1873	32				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6510	GWA
1873	32				14	10	5857	13603	MUIR INLET, GL	02 7 967	G W ARGUS	6535	GWA
1873	32				14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6441	GWA
1873	32				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6486	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6384	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6363	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6362	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6358	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6361	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6370	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6369	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6368	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6365	GWA
1873	32				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6382	GWA
1873	32				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6575	GWA
1873	32				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6572	GWA
1873	32				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6574	GWA
1873	32				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6588	GWA
1873	32				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6592	GWA
1873	32				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6591	GWA
1873	32				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6589	GWA
1873	32				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6578	GWA
1873	32				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6581	GWA
1873	32				14	11	5839	13413	TAKU B NUNATAK	10 08 966	R BESCHEL	15482	GWA
1873	32				14	23	5335	16650	UNALASKA IS	06 06 944	F BEALS	16	US 2034651
1873	32				14	34	5738	15220	ISTHMUS PT	18 06 949	E LEPAGE	25030	CAN
1873	32				14	42	5819	15406	KUKAK BAY	01 07 899	F COVILLE	1680	US 373486
1873	32				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6685	GWA
1873	32				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6684	GWA
1873	32				14	45	5928	13602	MOSQUITO LAKE.	11 7 967	G W ARGUS	6676	GWA
1873	32				14	45	5905	13524	DAVIDSON GL	05 07 929	W COOPER	19	F 742232
1873	32				14	45	5937	13508	WHITE PASS	23 07 914	A EASTWOOD	912	A
1873	32				14	45	5921	13625	FLOWER MT	11 07 909	E W SCHEUBER		GH
1873	32				14	46	5932	13940	YAKUTAT.	23 6 967	G W ARGUS	6345	GWA
1873	32				14	46	5932	13940	YAKUTAT.	23 6 967	G W ARGUS	6341	GWA
1873	32				14	46	5933	13930	SITUK RIVER.	23 6 967	G W ARGUS	6348	GWA
1873	32				14	46	5932	13940	YAKUTAT.	23 6 967	G W ARGUS	6346	GWA
1873	32				14	46	5915	13830	TANIS LAKE	21 6 967	G W ARGUS	6268	GWA
1873	32				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6236	GWA
1873	32				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6245	GWA
1873	32				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6241	GWA
1873	32				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6234	GWA
1873	32				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6239	GWA
1873	32				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6246	GWA
1873	32				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6235	GWA
1873	32				14	46	5915	13830	TANIS LAKE	21 6 967	G W ARGUS	6270	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6114	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6109	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6128	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6129	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6141	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6147	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	32				14	46	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6150	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6149	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6161	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6160	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6188	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6185	GWA
1873	32				14	46	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6184	GWA
1873	32				14	46	5910	13823	ALSEK RIVER	10 06 965	L A VIERECK	7604	GWA
1873	32				14	46	5924	13900	HARLEQUIN L	10 06 965	L A VIERECK	7610	GWA
1873	32				14	46	5924	13900	HARLEQUIN L	10 06 965	L A VIERECK	7605	GWA
1873	32				14	46	5910	13823	ALSEK RIVER	10 06 965	L A VIERECK	7604	FSLC 341
1873	32				14	46	5924	13900	HARLEQUIN L	10 06 965	L A VIERECK	7610	FSLC 333
1873	32				14	46	5924	13900	HARLEQUIN L	10 06 965	L A VIERECK	7605	FSLC 329
1873	32				14	63	6040	14903	TUNNEL	15 07 932	W SETCHELL	613	F 755140
1873	32				14	68	6108	14544	THOMPSON PASS	05 07 935	J P ANDERSON	1887	ISC 256389
1873	32				14	68	6108	14544	THOMPSON PASS	06 08 958	L A SPETZMAN	2165A	CAN
1873	32				14	68	6108	14547	THOMPSON PASS	01 08 967	L A VIERECK	8498	GWA
1873	32				14	68	6110	14540	WORTHINGTON GL	08 08 957	L A VIERECK	2210A	GWA
1873	32				14	68	6111	14547	WORTHINGTON GL	01 08 967	L A VIERECK	8478	GWA
1873	32				14	68	6112	14613	ROBE LAKE	02 08 967	L A VIERECK	8752	GWA
1873	32				14	68	6110	14540	WORTHINGTON GL	08 08 957	L A VIERECK	2210A	ALA 8414
1873	32				14	69	6102	14801	COLLEGE FIORD	23 08 935	W COOPER	224	F 823977
1873	32				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	383	ALA 5966
1873	32				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	385	ALA 5966
1873	32				14	71	6155	15425	HEAD OF BIG R.	6 7 950	W H DRURY	3966	CAN
1873	32				14	71	6152	15433	HEAD OF BIG R.	5 7 950	W H DRURY	3885	CAN
1873	32				14	81	6228	15115	KAHILTNA GL	27 06 956	L A VIERECK	1053	GWA
1873	32				14	81	6228	15115	KAHILTNA GL	27 06 956	L A VIERECK	1051	ALA 11629
1873	32				14	81	6228	15115	KAHILTNA GL	27 06 956	L A VIERECK	1053	ALA 11628
1873	32				14	86	6303	14610	TANGLE LAKES	20 08 953	O GJAERVOLL	1911	CAN
1873	32				14	88	6324	15025	THOROFARE R	04 07 956	L A VIERECK	1083	GWA
1873	32				14	88	6324	15025	THOROFARE R	04 07 956	L A VIERECK	1083	ALA 11611
36		SPHENOPHYLLA											
1873	36				7	117	7013	12940	CAPE DALHOUSIE	31 07 963	W J CODY	13129	DAO 32715
1873	36				14	94	6445	16620	FEATHER RIVER	10 08 966	R PEGAU	W1	GWA
1873	36				14	94	6445	16620	FEATHER RIVER	10 08 966	R PEGAU	W1	ALA 32708
1873	36				14	94	6430	16525	NOME	14 07 966	S L WELSH	5947	GWA
1873	36				14	111	6546	16855	LTL DIOMEDE IS	14 08 926	A E PORSILD	1676A	CAN 46440
1873	36				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5912	GWA
1873	36				14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5848	GWA
39		ARBUSCULOIDES											
1873	39				1	5	5907	11127	SLAVE RIVER	12 06 927	H M RAUP	550	ALA 14478
1873	39				1	20	5640	11115	WATERWAYS	31 05 939	H M RAUP	9040	ALA 14838
1873	39				1	34	5310	11338	WHITEMUD CREEK	27 05 939	H M RAUP	9027	ALA 14842
1873	39				2	7	5925	12610	LIARD HOT SPR	23 06 966	G W ARGUS	5014	GWA
1873	39				2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6037	GWA
1873	39				2	16	5840	12417	TETSA RIVER	22 06 966	G W ARGUS	4971	GWA
1873	39				2	16	5849	12507	RACING RIVER	27 05 960	J A CALDER	24674	ALA 17430
1873	39				2	16	5840	12440	SUMMIT PASS	13 06 943	H M RAUP	10511	ALA 20068
1873	39				2	24	5705	12235	BEATTON RIVER	10 06 943	H M RAUP	10014	ALA 20046
1873	39				2	24	5705	12235	BEATTON RIVER	13 06 943	H M RAUP	10074	ALA 20051
1873	39				2	24	5658	12238	BEATTON RIVER	16 06 943	H M RAUP	10098	ALA 20069
1873	39				2	24	5705	12235	BEATTON RIVER	13 06 943	H M RAUP	10073	ALA 20050
1873	39				7	134	6916	12815	ANDERSON RIVER	08 07 963	W J CODY	12611	DAO 32677
1873	39				7	134	6920	12815	ANDERSON R	14 07 965	G W SCOTTER	6933	GWA
1873	39				7	135	6923	13310	TUKTOYAKTUK	21 07 963	W J CODY	13061	DAO 32675
1873	39				7	152	6813	13500	AKLAVIK	26 6 957	W J CODY	9673	DAO
1873	39				7	152	6819	13340	INUVIK	16 6 957	W J CODY	9622	DAO
1873	39				7	152	6842	13407	MACKENZIE DELT	10 07 947	I M COWAN	27	DAO 32650
1873	39				7	152	6820	13330	INUVIK	26 6 970	S L WELSH	10015	OTF 1215
1873	39				7	241	6517	12651	NORMAN WELLS	4 6 957	W J CODY	9564	DAO
1873	39				7	308	6307	12630	DAL L.	6 8 967	W J CODY	17566	DAO
1873	39				7	339	6205	12735	BRINTNELL L	24 06 939	H M RAUP	9263	ALA 14846
1873	39				7	339	6205	12735	BRINTNELL L	28 06 939	H M RAUP	9317	ALA 14845
1873	39				7	339	6224	12714	MACKENZIE MTS.	14 7 963	E R ROWLANDS	528	DAO
1873	39				7	342	6158	12145	FORT SIMPSON	11 06 955	W J CODY	8156	ALA 24338
1873	39				7	342	6251	12123	FORT SIMPSON	12 06 939	H M RAUP	9104	ALA 14840
1873	39				7	342	6251	12123	FORT SIMPSON	11 06 939	H M RAUP	9079	ALA 14841
1873	39				7	392	6051	11542	LOWER HAY R	07 06 951	W LEWIS	237	NY
1873	39				7	402	6050	9425	MCCONNELL R	10 07 967	K L MACINNES	603	UWO
1873	39				11	29	5350	10518	CANDLE LAKE	17 5 965	G W ARGUS	4753	GWA
1873	39				11	29	5341	10515	BIRCHBARK CR	17 5 965	G W ARGUS	4753	GWA
1873	39				12	5	6727	13959	RAMPART HOUSE	01 06 951	C C LOAN	390	GWA
1873	39				12	15	6404	13925	DAWSON	932	BEAUCHAMP		ALA 493
1873	39				12	15	6404	13925	DAWSON	08 06 949	J A CALDER	2889	ISC 255938
1873	39				12	22	6335	13554	MAYO	06 08 944	J P ANDERSON	9717	ISC 255940
1873	39				12	32	6158	14033	WHITE R	21 07 944	J P ANDERSON	9314	ISC 255864
1873	39				12	32	6110	13845	KLUANE LAKE	30 06 966	G W ARGUS	5087	GWA
1873	39				12	32	6110	13845	KLUANE LAKE	30 06 966	G W ARGUS	5086	GWA
1873	39				12	32	6122	13903	BURWASH	13 07 944	H M RAUP	12451	ALA 20048
1873	39				12	32	6122	13903	BURWASH	02 07 948	H M RAUP	13318	ALA 20044
1873	39				12	32	6103	13831	KLUANE LAKE	02 07 944	H M RAUP	12098	ALA 20052
1873	39				12	32	6146	13837	PTARMIGANHEART	15 07 948	H M RAUP	13651	ALA 20049
1873	39				12	32	6103	13831	KLUANE LAKE	02 07 944	H M RAUP	12098	GWA
1873	39				12	34	6137	13553	CONGLOMERATE M	14 05 960	J A CALDER	24407	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB	+ NO
1873	39				12	35	6135	13302	CANOL RD M95	14 06 944	A E PORSILD	10361	TSC	255937
1873	39				12	39	6057	13825	KLUANE L	15 07 944	H M RAUP	12471	ALA	20047
1873	39				12	39	6057	13825	KLUANE L	15 07 944	H M RAUP	12471	GWA	
1873	39				12	40	6045	13615	MENDENHALL R	30 06 966	G W ARGUS	5078	GWA	
1873	39				12	40	6045	13615	MENDENHALL R	30 06 966	G W ARGUS	5076	GWA	
1873	39				12	40	6045	13615	MENDENHALL R	30 06 966	G W ARGUS	5079	GWA	
1873	39				12	40	6047	13735	PINE CREEK	23 06 944	H M RAUP	11859	ALA	20045
1873	39				12	40	6047	13735	PINE CREEK	23 06 944	H M RAUP	11859	GWA	
1873	39				12	41	6010	13442	CARCROSS	13 07 949	J M GILLETT	3797	TSC	255939
1873	39				12	42	6022	13351	LTL ATLIN L	19 08 943	H M RAUP	11388	ALA	20053
1873	39				12	42	6022	13351	LTL ATLIN L	19 08 943	H M RAUP	11388	GWA	
1873	39				12	42	6006	13231	ALA HWY M793	24 06 966	S L WELSH	5474	GWA	
1873	39				12	44	6007	12848	WATSON LAKE	07 06 956	G W ARGUS	268	GWA	
1873	39				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5031	GWA	
1873	39				14	41	5844	15701	SALMON CREEK	28 08 948	E LEPAGE	24118	TSC	255943
1873	39				14	63	6029	14922	MOOSE PASS	01 06 941	J P ANDERSON	6497	TSC	255792
1873	39				14	67	6126	14255	MCCARTHY	08 06 961	E L LITTLE, JR.	18375	GWA	
1873	39				14	68	6157	14517	COPPER CENTER	08 06 961	E L LITTLE, JR.	18384	GWA	
1873	39				14	68	6140	14510	TONSINA	28 07 958	L A SPETZMAN	2151	CAN	
1873	39				14	69	6150	14731	SHEEP MT	17 07 948	J P ANDERSON	10745	TSC	255860
1873	39				14	69	6150	14731	SHEEP MT	15 07 948	J P ANDERSON	10672	TSC	255941
1873	39				14	71	6158	15438	BIG RIVER	19 7 950	W H DRURY	4322	CAN	
1873	39				14	73	6135	15915	RUSSIAN MISS.	2 7 949	W H DRURY	1738	CAN	
1873	39				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1506	CAN	
1873	39				14	73	6132	15927	ANIAK	20 6 949	W H DRURY	1568	CAN	
1873	39				14	73	6135	15932	ANIAK	17 6 949	W H DRURY	1429	CAN	
1873	39				14	73	6135	15932	ANIAK	17 6 949	W H DRURY	1430	CAN	
1873	39				14	73	6132	15927	ANIAK RIVER	20 6 949	W H DRURY	1581	CAN	
1873	39				14	73	6132	16018	KALSKAG	25 05 933	W R MILLER	261C	TSC	255944
1873	39				14	73	6132	16018	KALSKAG	25 05 933	W R MILLER	261C	ALA	2855
1873	39				14	78	6239	16012	ANVIK	13 06 924	J CHAPMAN	43	NY	
1873	39				14	79	6259	15604	TAKOTNA	26 07 941	J P ANDERSON	7413	TSC	255867
1873	39				14	79	6259	15604	TAKOTNA	26 07 941	J P ANDERSON	7413	ALA	491
1873	39				14	80	6257	15536	MCGRATH	13 6 949	W H DRURY	1355	CAN	
1873	39				14	80	6257	15536	MCGRATH	7 6 950	W H DRURY	3614	CAN	
1873	39				14	80	6257	15536	MCGRATH	7 6 950	W H DRURY	3619	CAN	
1873	39				14	80	6257	15536	MCGRATH	7 6 950	W H DRURY	3620	CAN	
1873	39				14	80	6250	15452	BIG RIVER	28 7 950	W H DRURY	4388	CAN	
1873	39				14	80	6233	15337	FAREWELL L.	2 8 949	W H DRURY	2289	CAN	
1873	39				14	80	6232	15543	KUSKOKWIM R.	20 7 949	W H DRURY	2139	CAN	
1873	39				14	80	6257	15535	MCGRATH	15 06 961	E L LITTLE, JR.	18446	GWA	
1873	39				14	83	6218	14518	GAKONA	08 06 944	J P ANDERSON	8507	TSC	255861
1873	39				14	83	6218	14518	GAKONA	18 06 944	J P ANDERSON	8506	TSC	255862
1873	39				14	83	6218	14518	GAKONA	19 06 957	G W ARGUS	1043	GWA	
1873	39				14	83	6218	14518	GAKONA	19 06 957	G W ARGUS	1043	ALA	8403
1873	39				14	83	6216	14522	GULKANA R BR	10 06 967	L A VIERECK	8208	GWA	
1873	39				14	84	6238	14102	ALA HWY M1222	27 05 961	E L LITTLE, JR.	18223	GWA	
1873	39				14	85	6323	14321	TANACROSS	27 07 944	J P ANDERSON	8791	TSC	255863
1873	39				14	85	6320	14236	TETLIN JCT	01 07 963	M BARTHOLOMEW	7063	ALA	25908
1873	39				14	85	6322	14232	TETLIN JCT	21 06 963	J NAVA	95	ALA	23945
1873	39				14	85	6330	14348	ROBERTSON R	26 07 957	L A SPETZMAN	905	ALA	6844
1873	39				14	85	6318	14338	TANANA R	09 07 957	L A SPETZMAN	470	ALA	6843
1873	39				14	86	6347	14545	DONNELY DOME	30 06 957	G W ARGUS	1062	GWA	
1873	39				14	86	6356	14655	W FK LTL DELTA	03 06 941	L J PALMER	553	TSC	255869
1873	39				14	86	6356	14655	W FK LTL DELTA	06 941	L J PALMER	497		5629
1873	39				14	86	6356	14655	W FK LTL DELTA	03 06 941	L J PALMER	553	ALA	5158
1873	39				14	87	6351	14858	HEALY	22 07 939	J P ANDERSON	5708	TSC	255870
1873	39				14	87	6351	14858	HEALY	22 07 939	J P ANDERSON	5708	TSC	255870
1873	39				14	87	6340	14930	TEKLANIKA R	21 07 956	G W ARGUS	614	GWA	
1873	39				14	87	6355	14930	SAVAGE R	18 06 928	Y MEXIA	2015	ALA	10201
1873	39				14	87	6355	14930	SAVAGE R	18 06 928	Y MEXIA	2016	ALA	10202
1873	39				14	87	6338	14934	IGLOO CR CAMP	10 07 939	A NELSON	3766	ISC	255945
1873	39				14	87	6338	14934	IGLOO CR CAMP	10 07 939	A NELSON	3766	ALA	492
1873	39				14	87	6355	14725	DRY CREEK	09 07 962	L A VIERECK	5881	GWA	
1873	39				14	87	6355	14725	DRY CREEK	25 06 962	L A VIERECK	5719	GWA	
1873	39				14	88	6331	15003	TOKLAT R BR	22 07 965	S L WELSH	4855	ISC	247207
1873	39				14	89	6315	15520	NIXON FORK	12 6 950	W H DRURY	3726	CAN	
1873	39				14	90	6310	15631	OPHIR	26 06 940	E SCAMMAN	1831	GWA	
1873	39				14	94	6430	16530	NOME		G GASSER		ALA	25007
1873	39				14	94	6430	16530	NOME	27 06 954	C HELLER	1157	ALA	24322
1873	39				14	97	6445	15857	GALENA	18 06 961	E L LITTLE, JR.	18507	GWA	
1873	39				14	97	6445	15657	GALENA	18 06 961	E L LITTLE, JR.	18508	GWA	
1873	39				14	97	6420	15843	KALTAG	04 07 931	C H ROUSE	43	ALA	25460
1873	39				14	97	6420	15843	KALTAG	04 07 931	C H ROUSE	43	ALA	2076
1873	39				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	50	ALA	
1873	39				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	47	ALA	2016
1873	39				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	47	ALA	25426
1873	39				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	50	ALA	25462
1873	39				14	98	6445	15530	RUBY	03 07 931	C H ROUSE	50	ALA	2011
1873	39				14	100	6450	14743	FAIRBANKS	10 05 940	J P ANDERSON	6080	ISC	255869
1873	39				14	100	6450	14743	FAIRBANKS	12 05 940	J P ANDERSON	6087	ISC	255868
1873	39				14	100	6448	14755	CHENA PUMP RD	22 06 956	G W ARGUS	411	GWA	
1873	39				14	100	6453	14752	SMITH LAKE	13 06 956	G W ARGUS	288	GWA	
1873	39				14	100	6451	14752	UNIV EXP FARM	14 06 956	G W ARGUS	332	GWA	
1873	39				14	100	6453	14751	SMITH LAKE	22 06 956	G W ARGUS	430	GWA	
1873	39				14	100	6453	14752	SMITH LAKE	13 06 956	G W ARGUS	288	ALA	4522
1873	39				14	100	6451	14752	UNIV EXP FARM	14 06 956	G W ARGUS	332	ALA	4524
1873	39				14	100	6453	14751	SMITH LAKE	22 06 956	G W ARGUS	430	ALA	4512
1873	39				14	100	6453	14751	SMITH LAKE	22 06 956	G W ARGUS	430	ALA	22488
1873	39				14	100	6500	14740	FOX	02 06 964	V L HARMS	2631	ALA	32624
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	179	ALA	5257

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	39				14	100	6450	14743	FAIRBANKS	17 06 933	L J PALMER	151	ALA 32134
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	187	ALA 5260
1873	39				14	100	6450	14743	FAIRBANKS	20 07	L J PALMER		ALA 5170
1873	39				14	100	6450	14743	FAIRBANKS	20 06 927	L J PALMER	1789	ALA 5910
1873	39				14	100	6450	14743	FAIRBANKS	20 06 927	L J PALMER	1789	ALA 5185
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	149	ALA 5227
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	151	ALA 5228
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	170	ALA 5267
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	195	ALA 5261
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	181	ALA 5258
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	152	ALA 5254
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	184	ALA 5259
1873	39				14	100	6450	14743	FAIRBANKS	20 06 927	L J PALMER	1786	ALA 5186
1873	39				14	100	6450	14743	FAIRBANKS	20 06 927	L J PALMER	1786	ALA 5921
1873	39				14	100	6450	14743	FAIRBANKS	17 06 933	L J PALMER	205	ALA 5981
1873	39				14	100	6450	14743	FAIRBANKS	20 07 931	L J PALMER	17	ALA 5978
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	158	ALA 5256
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	156	ALA 5255
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	208	ALA 5252
1873	39				14	100	6450	14743	FAIRBANKS	06 933	L J PALMER	199	ALA 5262
1873	39				14	100	6450	14743	FAIRBANKS	947	T L PEWE	196	ISC 255935
1873	39				14	100	6451	14748	FAIRBANKS	21 07 963	T SCHUCK	11	ALA 26179
1873	39				14	100	6452	14752	SMITH LAKE	05 06 955	S G SMITH	10745	ALA
1873	39				14	100	6451	14736	CHENA RIVER	07 06 955	S G SMITH	7	ALA 10746
1873	39				14	100	6452	14752	UNIV EXP FARM	17 06 964	L A VIERECK	7188	FSLC 271
1873	39				14	100	6452	14752	UNIV EXP JARM	29 07 963	L A VIERECK	7003	FSLC 44
1873	39				14	100	6448	14744	VAN HORN ROAD	26 05 966	L A VIERECK	7891	GWA
1873	39				14	100	6448	14744	VAN HORN ROAD	26 05 966	L A VIERECK	7892	GWA
1873	39				14	100	6448	14744	VAN HORN ROAD	24 07 966	L A VIERECK	8054	GWA
1873	39				14	100	6448	14744	VAN HORN ROAD	24 07 966	L A VIERECK	8055	GWA
1873	39				14	100	6453	14749	COLLEGE	08 07 967	L A VIERECK	8298	GWA
1873	39				14	101	6454	14625	CHENA RIVER	06 07 966	G W ARGUS	5093	GWA
1873	39				14	101	6412	14555	BIG DELTA	21 05 951	W J CODY	4841	GWA
1873	39				14	101	6453	14645	UPPER CHENA R	22 06 964	L A VIERECK	7209	FSLC 314
1873	39				14	101	6457	14657	UPPER CHENA R	25 05 965	L A VIERECK	7543	FSLC
1873	39				14	101	6457	14657	UPPER CHENA R	25 05 965	L A VIERECK	7541	FSLC
1873	39				14	102	6410	14146	FRANKLIN	14 07 941	J P ANDERSON	7282	ISC 255866
1873	39				14	102	6410	14146	FRANKLIN	14 07 941	J P ANDERSON	7282	ALA 494
1873	39				14	103	6515	14245	CHARLEY RIVER	08 08 964	L A VIERECK	7465	FSLC 285
1873	39				14	104	6532	14446	CENTRAL	20 06 964	V L HARMS	2766	ALA 32601
1873	39				14	104	6534	14448	CENTRAL	29 05 961	E L LITTLE, JR.	18262	GWA
1873	39				14	104	6531	14513	MILLER HOUSE	12 07 949	E SCAMMAN	5161	GWA
1873	39				14	104	6531	14513	MILLER HOUSE	13 06 945	E SCAMMAN	3495	ALA 8395
1873	39				14	104	6527	14526	EAGLE CR CAMP	12 06 966	J M TRENT	866	ALA 32690
1873	39				14	104	6558	14407	CIRCLE	11 07 965	L A VIERECK	7723	FSLC
1873	39				14	105	6531	14833	LIVENGOOD	08 07 944	J P ANDERSON	8972	ISC 255942
1873	39				14	105	6531	14833	LIVENGOOD	08 07 944	J P ANDERSON	8972	GWA
1873	39				14	105	6507	14747	CHATANIKA R	03 08 957	G W ARGUS	1153	GWA
1873	39				14	105	6507	14747	CHATANIKA R	03 08 957	G W ARGUS	1153	ALA 6793
1873	39				14	105	6506	14745	CHATANIKA R BR	04 06 965	V L HARMS	3461	ALA 32632
1873	39				14	105	6502	14740	ENGINEER CREEK	02 06 964	V L HARMS	2639	ALA 32648
1873	39				14	105	6527	14815	TOLOVANA R	30 07 965	V L HARMS	4649	ALA 32595
1873	39				14	105	6550	14750	LIVENGOOD	23 06 959	T P O:FARRELL	32	ALA 9632
1873	39				14	105	6531	14833	LIVENGOOD	19 06 940	E SCAMMAN	1716	GWA
1873	39				14	113	6655	16231	KOTZEBUE	11 08 966	G W ARGUS	5976	GWA
1873	39				14	117	6654	15141	BETTLES	939	G T JOHNSON	B	ISC 255936
1873	39				14	119	6634	14516	FORT YUKON	16 06 961	E L LITTLE, JR.	18451	GWA
1873	39				14	119	6634	14516	FORT YUKON	24 05 961	E L LITTLE, JR.	18215	GWA
1873	39				14	120	6644	14334	BLACK RIVER	08 07 957	S G SHETLER	386AF	ALA 3909
1873	39				14	121	6715	14140	PORCUPINE R	20 07 957	J L BUCKLEY	118	ALA 5098
1873	39				14	121	6715	14140	PORCUPINE R	19 07 957	J L BUCKLEY	113B	ALA 5092
1873	39				14	121	6715	14140	RAMPART	21 07 957	J L BUCKLEY	181	ALA 5116
1873	39				14	121	6708	14208	PORCUPINE R	16 08 961	F C DEAN		ALA 24095
1873	39				14	121	6716	14138	PORCUPINE R	10 08 961	F C DEAN		ALA 24094
1873	39				14	121	6723	14350	SMALL LAKE	25 07 957	S G SHETLER	672AF	ALA 4095
1873	39				14	121	6723	14350	SMALL LAKE	26 07 957	S G SHETLER	715AF	ALA 4120
1873	39				14	121	6723	14350	SMALL LAKE	27 07 957	S G SHETLER	697AF	ALA 4105
1873	39				14	121	6723	14350	SMALL LAKE	27 07 957	S G SHETLER	695AF	ALA 4104
1873	39				14	124	6725	15006	WISEMAN	02 08 937	E SCAMMAN	900	GWA
1873	39				14	134	6820	15100	KANAYUT CR	17 07 949	L A SPETZMAN	2720	DAO 32753
1873	39				14	136	6804	14503	OLD JOHN LAKE	15 08 957	S G SHETLER	AF161	GWA
1873	39				14	137	6822	14355	SHEENJEK R	23 06 956	B KESSEL	S66A	ALA 5043
1873	39				14	137	6822	14355	SHEENJEK R	15 06 956	B KESSEL	S22	ALA 3547
1873	39				14	137	6822	14355	SHEENJEK R	15 06 956	B KESSEL	S22	ALA
1873	39				14	137	6822	14355	SHEENJEK R	15 06 956	B KESSEL	S21	ALA 5044
1873	39				14	137	6822	14355	SHEENJEK R	15 06 956	B KESSEL	S21	ALA 22873
1873	39				14	141	6920	15210	UMIAT	22 06 951	J L BUCKLEY		GWA
1873	39				14	141	6920	15210	UMIAT	22 06 951	J L BUCKLEY		ALA 5033
1873	39				14	141	6920	15210	UMIAT	22 06 951	J L BUCKLEY		ALA 26814
1873	39				14	141	6922	15208	UMIAT	27 06 953	S G SMITH	1848	ALA 10653
1873	39				14	141	6923	15210	UMIAT	27 07 966	Y SUDA	24166	GWA
1873	39				14	141	6923	15210	UMIAT	27 07 966	Y SUDA	24266	GWA
1873	39				14	141	6923	15210	UMIAT	28 07 966	Y SUDA	26366	GWA
1873	39				14	141	6923	15210	UMIAT	29 07 966	Y SUDA	27866	GWA
1873	39				14	141	6923	15210	UMIAT	28 07 966	Y SUDA	26266	GWA
1873	39				14	141	6922	15210	UMIAT	03 06 964	G WEST	7179	GWA
1873	39				14	141	6922	15210	UMIAT	12 08 964	G WEST	7507	GWA

41 HASTATA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	41				7	133	6920	13350	MACKENZIE DELT	14 8 951	A A LINDSEY	705	CAN 215919
1873	41				7	134	6944	13120	ATKINSON PT	21 07 966	G W SCOTTER	10109	GWA
1873	41				7	152	6835	13404	MACKENZIE DELT	17 8 951	A A LINDSEY	720	CAN 215920
1873	41				7	153	6812	13115	HYNDMAN L	07 07 966	G W SCOTTER	10102	GWA
1873	41				7	153	6833	12828	ANDERSON R	05 07 965	G W SCOTTER	6905	GWA
1873	41				12	2	6922	13932	FIRTH RIVER	1 7 970	S L WELSH	10163A	OTF 1190
1873	41				12	3	6847	14028	FIRTH RIVER	12 7 970	S L WELSH	10567	OTF 1212
1873	41				12	4	6811	13947	TIMBER CR.	1 7 970	S L WELSH	10109	BRY 91159
1873	41				12	4	6857	13832	BABBAGE R.	13 7 970	S L WELSH	10629	BRY 91476
1873	41				12	4	6827	13845	DOG CREEK	6 7 970	S L WELSH	10275	OTF 1207
1873	41				12	4	6838	13945	BABBAGE RIVER	9 7 970	S L WELSH	10404	OTF 1189
1873	41				12	5	6734	13832	OLD CROW R.	18 6 970	J K RIGBY	2	BRY 92301
1873	41				12	15	6404	13925	DAWSON	15 06 949	J A CALDER	3056	ISC 256394
1873	41				14	71	6155	15425	HEAD OF BIG R.	6 7 950	W H DRURY	3968	CAN
1873	41				14	86	6324	14543	CASTNER GL	25 07 967	L A VIERECK	8347	GWA
1873	41				14	86	6315	14540	RAINBOW MT	05 08 965	L A VIERECK	7869	GWA
1873	41				14	87	6325	14900	CANTWELL	19 07 956	G W ARGUS	596	GWA
1873	41				14	87	6344	14855	MCKINLEY PARK	29 07 956	G W ARGUS	697	GWA
1873	41				14	87	6344	14855	MCKINLEY PARK	29 07 956	G W ARGUS	697	ALA 4903
1873	41				14	87	6339	14932	TEKLANIKA R	02 08 959	A MURIE	S.N.	GWA
1873	41				14	87	6339	14932	TEKLANIKA R	07 06 960	A MURIE	5	GWA
1873	41				14	87	6339	14932	TEKLANIKA R	02 08 959	A MURIE	6	GWA
1873	41				14	87	6339	14932	TEKLANIKA R	20 06 960	A MURIE	9	GWA
1873	41				14	87	6333	14934	SABLE PASS	953	A MURIE	11	GWA
1873	41				14	87	6323	14852	WINDY CREEK	14 06 960	A MURIE	6	GWA
1873	41				14	87	6325	14900	CANTWELL	18 08 939	A NELSON	4215	ALA 517
1873	41				14	87	6344	14855	MCKINLEY PARK	30 06 939	A NELSON	3595	ALA 516
1873	41				14	87	6325	14900	CANTWELL	18 08 939	A NELSON	4215	ISC 256398
1873	41				14	87	6344	14855	MCKINLEY PARK	30 06 939	A NELSON	3595	ISC 256401
1873	41				14	87	6356	14728	DRY CREEK	27 07 962	L A VIERECK	5732	GWA
1873	41				14	87	6335	14845	CANTWELL	30 07 964	L A VIERECK	7410	FSLC 295
1873	41				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	682	GWA
1873	41				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	684	GWA
1873	41				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	682	ALA 4904
1873	41				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	684	ALA 22497
1873	41				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	684	ALA 4750
1873	41				14	88	6325	15050	WONDER LAKE	04 08 958	L A VIERECK	3269	GWA
1873	41				14	94	6434	16533	NOME	02 07 968	R PEGAU	19968	GWA
1873	41				14	94	6428	16512	NOME	03 08 949	E SCAMMAN	5358	GH
1873	41				14	97	6420	15843	KALTAG	04 07 931	C H ROUSE	45	ALA 25465
1873	41				14	97	6420	15843	KALTAG	04 07 931	C H ROUSE	45	ALA 2017
1873	41				14	101	6433	14455	GOODPASTER R	29 06 956	A W JOHNSON	46	ALA 7064
1873	41				14	102	6410	14136	FRANKLIN	13 07 941	J P ANDERSON	7221	ALA 536
1873	41				14	104	6522	14556	TWELVE MILE CR	17 06 957	S G SHETLER	82AF	ALA 3730
1873	41				14	104	6527	14526	EAGLE CR CAMP	12 06 966	J N TRENT	766	ALA 32692
1873	41				14	104	6520	14550	STEES HWY M88	25 07 964	L A VIERECK	7353	FSLC 309
1873	41				14	105	6528	14739	FOSSIL CREEK	26 07 953	O GJAEREVOLL	802	CAN
1873	41				14	111	6511	16533	DUCK CREEK	17 07 968	R PEGAU	30568	GWA
1873	41				14	111	6545	16510	SALMON L ROAD	4 6 969	R F PEGAU	4669	GWA
1873	41				14	111	6512	16645	PORT CLARENCE	29 07 901	F WALPOLE	1594	US 378703
1873	41				14	111	6512	16645	PORT CLARENCE	30 07 901	F WALPOLE	1624	US 378736
1873	41				14	116	6657	15326	HELPMEJACK CR	26 07 901	W C MENDENHALL		US 377286
1873	41				14	118	6600	14915	DALL RIVER	25 06 901	W C MENDEHALL		US 377367
1873	41				14	121	6715	14140	RAPID R	20 07 957	J L BUCKLEY	169	GWA
1873	41				14	121	6715	14140	RAPID R	20 07 957	J L BUCKLEY	169	ALA
1873	41				14	121	6715	14140	RAPID R	20 07 957	J L BUCKLEY	169	ALA 26776
1873	41				14	124	6725	15007	WISEMAN	31 07 939	J P ANDERSON	5815	ALA 27503
1873	41				14	124	6725	15007	WISEMAN	31 07 939	J P ANDERSON	5815	ISC 256400
1873	41				14	124	6725	15007	WISEMAN	17 06 949	L H JORDAL	1796	ISC 256399
1873	41				14	128	6756	16222	NOATAK R	08 07 961	R JOHNSON	135	GWA
1873	41				14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5961	GWA
1873	41				14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5962	GWA
1873	41				14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5963	GWA
1873	41				14	130	6855	16430	PITMEGEA RIVER	13 07 959	S G SHETLER	3296	GH
1873	41				14	131	6855	16110	DRIFTWOOD CR	29 6 969	R F PEGAU	15969	GWA
1873	41				14	131	6855	16110	DRIFTWOOD CR	29 6 969	R F PEGAU	15869	GWA
1873	41				14	133	6828	15442	KURUPA RIVER	07 07 952	A HODGDON	8278	GH
1873	41				14	134	6817	15125	ANAKTUVUK PASS	08 07 949	L A SPETZMAN	1767	US 2032478
1873	41				14	137	6822	14355	SHEENJEK R	15 06 956	B KESSEL	S20	GWA
1873	41				14	137	6840	14345	SHEENJEK R	11 07 956	B KESSEL	S169E	ALA 3679
1873	41				14	137	6822	14355	SHEENJEK R	15 06 956	B KESSEL	S20	ALA 5854
1873	41				14	137	6839	14100	FIRTH RIVER	16 06 961	E L LITTLE, JR.	18480	GWA
1873	41				14	137	6836	14356	SHEENJEK R	11 07 956	G R SCHALLER	143	WIS
1873	41				14	138	6926	14347	JAGO RIVER	11 07 957	J F CANTLON	57712	GH
1873	41				14	138	6930	14500	SADLEROCHIT R	02 08 948	L A SPETZMAN	1034	US 2032217
1873	41				14	139	6920	14500	LAKE PETERS	19 07 959	S G SHETLER		GH
1873	41				14	139	6920	14500	LAKE PETERS	19 07 959	S G SHETLER	3351	CAN
1873	41				14	141	6930	15130	COLVILLE RIVER	25 07 951	K CHAMBERS	193	GH
1873	41				14	141	6930	15130	COLVILLE RIVER	23 07 951	K CHAMBERS	202	US 2312148
1873	41				14	141	6923	15210	UMIAT	27 07 966	Y SUDA	24566	GWA
1873	41				14	142	6902	15532	COLVILLE RIVER	10 08 952	A HODGDON	8798	GH
1873	41				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5553	GWA
1873	41				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5408	GWA
1873	41				14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5609	GWA
1873	41				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5552	GWA
1873	41				14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5199	GWA
1873	41				14	147	7030	15730	MEADE RIVER	15 07 966	G W ARGUS	5258	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	41				14	147	7030	15730	MEADE RIVER	15 07 966	G W ARGUS	5254	GWA
1873	41				14	147	7030	15730	MEADE RIVER	15 07 966	G W ARGUS	5262	GWA
1873	41				14	147	7030	15730	MEADE RIVER	15 07 966	G W ARGUS	5261	GWA
1873	41				14	147	6953	15708	MEADE RIVER	22 07 960	O W GEIST	S.N.	ALA 27726
1873	41				14	147	7003	15715	MEADE RIVER	23 08 956	I WIGGINS	13935	US 2264189
45	ARCTICA												
1873	45				02	001	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6718	GWA
1873	45				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6763	GWA
1873	45				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6764	GWA
1873	45				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6765	GWA
1873	45				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6785	GWA
1873	45				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6791	GWA
1873	45				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6779	GWA
1873	45				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6778	GWA
1873	45				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6787	GWA
1873	45				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6709	GWA
1873	45				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6713	GWA
1873	45				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6717	GWA
1873	45				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6720	GWA
1873	45				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6723	GWA
1873	45				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6728	GWA
1873	45				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6719	GWA
1873	45				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6721	GWA
1873	45				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6712	GWA
1873	45				02	2	5935	13627	THREEGUARDSMAN	04 08 967	L A VIERECK	8530	GWA
1873	45				02	2	5935	13627	THREEGUARDSMAN	04 08 967	L A VIERECK	8536	GWA
1873	45				02	2	5935	13627	THREEGUARDSMAN	04 08 967	L A VIERECK	8532	GWA
1873	45				02	2	5935	13628	HAINES RD M56	04 08 967	L A VIERECK	8524	GWA
1873	45				02	12	5800	13300	TULSEQUAH LAKE	31 08 958	C HEUSSER	4T	GWA
1873	45				02	16	5838	12442	MT ST GEORGE	06 07 960	J A CALDER	26578	GWA
1873	45				02	16	5831	12434	SUMMIT PASS	11 07 943	H M RAUP	10477	ALA 19468
1873	45				02	16	5831	12434	SUMMIT PASS	11 07 943	H M RAUP	10476	ALA 19516
1873	45				02	16	5831	12434	SUMMIT PASS	15 07 943	H M RAUP	10585	ALA 19571
1873	45				02	26	5650	13150	STIKINE RIVER		J P ANDERSON	738	ISC 85492
1873	45				02	33	5500	12700	SKEENA CROSS	28 08 954	J A CALDER	15140	GWA
1873	45				02	39	5400	12800	MT THORNHILL	21 07 954	J A CALDER	13312	GWA
1873	45				02	40	5400	12700	SMITHERS	13 07 954	J A CALDER	12923	GWA
1873	45				07	133	6941	13455	HOOPER ISLAND	20 07 966	G W SCOTTER	10104	GWA
1873	45				07	133	6933	13346	RICHARDS IS	23 07 966	G W SCOTTER	10111	GWA
1873	45				07	133	6927	13302	TUKTOYAKTUK	08 08 965	G W SCOTTER	6983	GWA
1873	45				07	134	6940	12827	ANDERSON RIVER	17 07 965	G W SCOTTER	6938	GWA
1873	45				07	134	6949	12859	MICHOLSON IS	18 07 965	G W SCOTTER	6940	GWA
1873	45				07	140	6903	10456	CAMBRIDGE BAY	12 08 959	J W THOMSON		WIS
1873	45				07	274	6445	12928	CACHE CREEK	22 07 963	E W JOHNSON	184	DAO 32713
1873	45				07	274	6447	12937	MOUNTAIN RIVER	17 07 963	E KVALE	220	DAO 32712
1873	45				07	297	6408	8317	CORAL HARBOR	16 07 948	W J CODY	1343	ISC 255813
1873	45				07	297	6408	8317	CORAL HARBOR	02 07 948	W J CODY	1086	ISC 255814
1873	45				07	308	6338	12719	RINGSTONE CR	02 07 963	E W JOHNSON	134	DAO 32709
1873	45				07	308	6346	12719	RINGSTONE CR	02 07 963	E W JOHNSON	154	DAO 32710
1873	45				07	308	6338	12707	N REDSTONE R	28 06 963	E W JOHNSON	104	DAO 32711
1873	45				07	335	6345	6832	FROBISHER BAY	03 07 948	H A SENN	3720	ISC 255927
1873	45				07	335	6345	6832	FROBISHER BAY	25 06 948	H A SENN	3562	ISC 255815
1873	45				07	338	6305	12850	O GRADY LAKE	29 07 967	W J CODY	16977	DAO 32703
1873	45				07	338	6257	12858	O GRADY LAKE	27 07 967	W J CODY	16715	DAO 32700
1873	45				07	338	6257	12858	O GRADY LAKE	27 07 967	W J CODY	16736	DAO 32704
1873	45				07	339	6205	12735	BRINTNELL L	26 06 939	H M RAUP	9282	ALA 16409
1873	45				07	339	6205	12735	BRINTNELL L	26 06 939	H M RAUP	9279	ALA 16415
1873	45				07	339	6205	12735	BRINTNELL L	26 06 939	H M RAUP	9281	ALA 16410
1873	45				07	339	6205	12735	BRINTNELL L	05 07 939	H M RAUP	9410	ALA 16399
1873	45				07	339	6205	12735	BRINTNELL L	05 07 939	H M RAUP	9410A	ALA 16398
1873	45				07	339	6205	12735	BRINTNELL L		H M RAUP	9760	ALA 16411
1873	45				07	339	6205	12735	BRINTNELL L	18 07 939	H M RAUP	9504	ALA 16414
1873	45				07	339	6205	12735	BRINTNELL L	26 06 939	H M RAUP	9280	ALA 16416
1873	45				7	368	6127	12405	S. NAHANNI R.	2 7 970	G W SCOTTER	12634	GWA
1873	45				07	402	6050	9425	MCCONNELL R	03 08 965	K L MACINNES	225	UWO
1873	45				07	402	6050	9425	MCCONNELL R	26 06 964	K L MACINNES	13	UWO
1873	45				07	402	6050	9425	MCCONNELL R	27 06 964	K L MACINNES	18	UWO
1873	45				07	402	6050	9425	MCCONNELL R	02 07 964	K L MACINNES	201	UWO
1873	45				07	402	6050	9425	MCCONNELL R	21 07 967	K L MACINNES	601	UWO
1873	45				12	2	6902	13943	BRITISH MTS.	25 6 970	J K RIGBY	73	BRY 92366
1873	45				12	4	6826	13840	SAM LAKE	30 6 970	S L WELSH	10074	OTF 1208
1873	45				12	4	6855	13710	BLOW RIVER	8 7 970	S L WELSH	10324	OTF 1209
1873	45				12	15	6413	14006	SIXTY MILE RD.	15 08 949	J A CALDER	4533	DAO 32728
1873	45				12	21	6350	13731	BARLOW	05 06 960	J A CALDER	25038	GWA
1873	45				12	22	6357	13510	KENO HILL	06 08 949	J M GILLETT	4349	DAO 32729
1873	45				12	30	6247	13104	MT SHELDON	17 08 944	A E PORSILD	11767	ISC 255830
1873	45				12	31	6203	12859	UPPER HYLAND L	03 08 960	J A CALDER	27845	GWA
1873	45				12	31	6203	12859	UPPER HYLAND L	03 08 960	J A CALDER	27850	GWA
1873	45				12	32	6103	13831	KLUANE LAKE	24 07 944	J P ANDERSON	9413	ISC 255822
1873	45				12	32	6103	13831	KLUANE LAKE	02 07 944	H M RAUP	12188	ALA 19517
1873	45				12	32	6103	13831	KLUANE LAKE	02 07 944	H M RAUP	12186	ALA 19472
1873	45				12	32	6149	13835	PTARMIGAN HRT	16 07 948	H M RAUP	13714	ALA 19572
1873	45				12	32	6149	13835	PTARMIGAN HRT	16 07 948	H M RAUP	13717	ALA 19479
1873	45				12	32	6103	13831	KLUANE LAKE	02 07 944	H M RAUP	12188	GWA
1873	45				12	35	6132	13302	ROSE RIVER	15 07 944	A E PORSILD	10562	ISC 255929
1873	45				12	35	6120	13300	ROSE RIVER	04 07 944	A E PORSILD	10947	ISC 255820
1873	45				12	35	6155	13238	LOWER LAPIE R	15 06 944	A E PORSILD	9602	ISC 255928
1873	45				12	39	6055	13843	SLIMS RIVER	27 06 967	D F MURRAY	702	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	45				12	39	6055	13843	SLIMS RIVER	30 06 967	D F MURRAY	828	GWA
1873	45				12	39	6055	13843	SLIMS RIVER	21 06 966	D F MURRAY	407	GWA
1873	45				12	39	6055	13843	SLIMS RIVER	26 06 967	D F MURRAY	777	GWA
1873	45				12	39	6057	13825	SLIMS RIVER	18 07 944	H M RAUP	12584	ALA 19570
1873	45				12	39	6057	13825	SLIMS RIVER	18 07 944	H M RAUP	12584	GWA
1873	45				12	41	6037	13508	MT MCINTYRE	21 06 949	J M GILLETT	3426	DAO 32731
1873	45				12	43	6005	13040	RANCHERIA	23 06 948	J P ANDERSON	10482	ISC 256281
1873	45				14	010	5854	13603	MUIR INLET, GL	29 6 967	G W ARGUS	6394	GWA
1873	45				14	010	5854	13603	MUIR INLET, GL	27 06 967	G W ARGUS	6357	GWA
1873	45				14	010	5854	13603	MUIR INLET, GL	29 6 967	G W ARGUS	6394	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6523	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6522	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6521	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6487	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6480	GWA
1873	45				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6449	GWA
1873	45				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6442	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6484	GWA
1873	45				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6466	GWA
1873	45				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6465	GWA
1873	45				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6446	GWA
1873	45				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6451	GWA
1873	45				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6459	GWA
1873	45				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6458	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6513	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6505	GWA
1673	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6515	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6514	GWA
1873	45				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6530	GWA
1873	45				14	010	5857	13603	MUIR INLET, GL	02 7 967	G W ARGUS	6556	GWA
1873	45				14	010	5857	13603	MUIR INLET, GL	02 7 967	G W ARGUS	6557	GWA
1873	45				14	010	5857	13603	MUIR INLET, GL	02 7 967	G W ARGUS	6558	GWA
1873	45				14	010	5857	13603	MUIR INLET, GL	02 7 967	G W ARGUS	6555	GWA
1873	45				14	010	5857	13603	MUIR INLET, GL	02 7 967	G W ARGUS	6554	GWA
1873	45				14	010	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6432	GWA
1873	45				14	010	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6426	GWA
1873	45				14	010	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6425	GWA
1873	45				14	010	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6423	GWA
1873	45				14	010	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6422	GWA
1873	45				14	010	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6420	GWA
1873	45				14	010	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6419	GWA
1873	45				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6379	GWA
1873	45				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6378	GWA
1873	45				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6360	GWA
1873	45				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6381	GWA
1873	45				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6373	GWA
1873	45				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6372	GWA
1873	45				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6380	GWA
1873	45				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6383D	GWA
1873	45				14	11	5832	13555	BEARDSLEE IS	28 07 928	J P ANDERSON	728	ISC 256483
1873	45				14	11	5832	13555	BEARDSLEE IS	28 06 928	J P ANDERSON	727	ISC 255807
1873	45				14	11	5817	13419	MT ROBERTS	26 07 925	J P ANDERSON	2A242	ISC 255934
1873	45				14	11	5830	13415	JUNEAU ICE FD	27 07 952	G W ARGUS	93	ALA 4737
1873	45				14	11	5830	13415	JUNEAU ICE FD	27 07 952	G W ARGUS	90	GWA
1873	45				14	11	5830	13415	JUNEAU ICE FD	27 07 952	G W ARGUS	91	GWA
1873	45				14	011	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6635	GWA
1873	45				14	011	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6661	GWA
1873	45				14	011	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6655	GWA
1873	45				14	011	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6634	GWA
1873	45				14	011	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6640	GWA
1873	45				14	11	5837	13418	SHOEHORN MT	05 08 966	R E BESCHEL	15442	GWA
1873	45				14	11	5839	13413	TAKU B-NUNATAK	06 08 966	R E BESCHEL	15469	GWA
1873	45				14	11	5839	13413	TAKU B-NUNATAK	10 08 966	R E BESCHEL	15483B	GWA
1873	45				14	11	5853	13420	GILKEY GL	22 08 958	C HEUSSER	1	GWA
1873	45				14	11	5853	13420	GILKEY GL	22 08 958	C HEUSSER	2	GWA
1873	45				14	11	5853	13420	GILKEY GL	22 08 958	C HEUSSER	3	GWA
1873	45				14	11	5825	13445	INSPIRATION PT	18 06 928	Y MEXIA	2014	ALA 10206
1873	45				14	11	5817	13424	MT ROBERTS	06 08 967	L A VIERECK	8622	GWA
1873	45				14	13	5256	17315E	ATTU ISLAND	09 09 945	J P ANDERSON	543	ISC 255826
1873	45				14	13	5255	17255E	ATTU ISLAND	23 07 941	F BEALE	S.N.	ISC 256494
1873	45				14	13	5249	17318E	ALEXAI POINT	20 08 944	P J SALAMUN	A47	WIS
1873	45				14	13	5255	17255E	ATTU ISLAND	15 08 945	G W SOULE	377	ISC 255796
1873	45				14	13	5255	17255E	ATTU ISLAND	23 06 945	G W SOULE	12	ISC 255801
1873	45				14	13	5255	17255E	ATTU ISLAND	09 09 945	G W SOULE	539	ISC 255824
1873	45				14	13	5255	17255E	ATTU ISLAND	15 08 945	G W SOULE	375	ISC 255912
1873	45				14	13	5255	17255E	ATTU ISLAND	01 08 945	G W SOULE	282	ISC 255798
1873	45				14	13	5255	17255E	ATTU ISLAND	28 06 945	G W SOULE	61	ISC255803
1873	45				14	14	5157	17739E	LITTLE KISKA I	22 06 937	J H STEENIS	4563	WIS
1873	45				14	15	5132	17900E	AMCHITKA IS	22 06 934	HATFIELD		ISC255916
1873	45				14	15	5132	17900E	AMCHITKA IS	02 08 967	W M KLEIN	2382	CS
1873	45				14	15	5132	17900E	AMCHITKA IS	27 07 967	W M KLEIN	2264	CS
1873	45				14	15	5132	17900E	AMCHITKA IS	27 07 967	W M KLEIN	2263	GWA
1873	45				14	15	5132	17900E	AMCHITKA IS	27 07 967	W M KLEIN	2264	GWA
1873	45				14	15	5132	17900E	AMCHITKA IS	27 07 967	W M KLEIN	2263	CS
1873	45				14	17	5145	17645	ADAK ISLAND	07 950	T P BANK	4267	ALA 6700
1873	45				14	17	5156	17644	ADAK ISLAND	08 950	T P BANK	4271	ALA 6715
1873	45				14	17	5145	17645	ADAK ISLAND	22 06 944	P E GLASSBURG	S.N.	ISC 255911
1873	45				14	17	5155	17645	ADAK ISLAND	25 06 966	V L HARMS	5252	ALA 32642
1873	45				14	18	5212	17408	ATKA ISLAND	08 949	T P BANK	1228	ALA 6705
1873	45				14	18	5212	17412	ATKA ISLAND	947	S OLIVER	31	ISC 255914
1873	45				14	18	5207	17430	ATKA ISLAND	14 08 945	C L YORK	45-436	ISC 255793

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	45				14	21	5259	16855	ANANIULIAK IS	25 06 962	R GORDON		WIS
1873	45				14	21	5255	16903	ANANIULIAK IS	15 07 962	M JOHNSON	244	WIS
1873	45				14	21	5250	16902	ANANIULIAK IS	06 07 962	M JOHNSON	261	WIS
1873	45				14	21	5255	16903	ANANIULIAK IS	05 07 962	M JOHNSON	239	WIS
1873	45				14	21	5245	16858	NIKOLSKI	12 07 962	M JOHNSON	386	WIS
1873	45				14	21	5240	16858	NIKOLSKI	10 08 962	M JOHNSON	984	WIS
1873	45				14	21	5245	16858	NIKOLSKI	13 08 962	M JOHNSON	1113	WIS
1873	45				14	21	5245	16858	NIKOLSKI	04 08 962	M JOHNSON	877	WIS
1873	45				14	22	5310	16842	MT RECHESHNOI	18 07 962	M JOHNSON	635	WIS
1873	45				14	23	5335	16650	UNALASKA	30 05 938	J P ANDERSON	3168	ISC 256453
1873	45				14	23	5335	16650	UNALASKA	23 07 938	J P ANDERSON	4214	ISC 255910
1873	45				14	23	5335	16650	UNALASKA	23 07 938	J P ANDERSON	4215	ISC 255915
1873	45				14	23	5335	16650	UNALASKA	21 08 943	F BEALS	S.N.	ISC 255799
1873	45				14	23	5352	16632	UNALASKA	04 07 941	L J COLE	S.N.	ISC 255922
1873	45				14	23	5335	16650	UNALASKA	04 07 941	L J COLE	S.N.	WIS
1873	45				14	23	5335	16650	UNALASKI	20 05 932	W J EYERDAM	770	ISC 255979
1873	45				14	23	5335	16650	UMNAK IS	20 08 926	W B MILLER	1693	ALA 2036
1873	45				14	25	5459	16228	COLD BAY		M WILLIAMS	2982	GWA
1873	45				14	25	5459	16228	COLD BAY		M WILLIAMS	2973	GWA
1873	45				14	34	5746	15312	KODIAK IS	01 08 950	W K CLARK		ISC 256481
1873	45				14	34	5747	15300	PILLAR MT	14 06 962	M JOHNSON	67	WIS
1873	45				14	34	5712	15332	THREESAINTS BY	05 08 963	B H NYBAKKEN	1035	GWA
1873	45				14	35	5730	15413	KODIAK REFUGIU	18 06 962	M JOHNSON	100	WIS
1873	45				14	38	5710	17015	ST PAUL IS	18 07 938	J P ANDERSON	4060	ISC 255825
1873	45				14	38	5710	17015	ST PAUL IS	08 07 941	L J COLE	S.N.	WIS
1873	45				14	38	5710	17015	ST PAUL IS	08 07 941	L J COLE	S.N.	WIS
1873	45				14	38	5710	17016	ST PAUL IS	08 07 941	L J COLE	S.N.	WIS
1873	45				14	39	5834	16146	CAPE PEIRCE	11 7 970	L DICK	287	GWA
1873	45				14	39	5834	16146	CAPE PEIRCE	13 7 970	L DICK	108	GWA
1873	45				14	39	5834	16146	CAPE PEIRCE	2 7 970	L DICK	247	GWA
1873	45				14	42	5846	15556	IDAVAIN L	29 08 954	V H CAHALANE	27	ISC 219361
1873	45				14	42	5834	15548	DUMPLING MT	17 06 965	F M CHAUVIN	KMN5	ALA 34951
1873	45				14	42	5835	15551	DUMPLING MT	28 06 966	C ESTABROOK	53	ALA 32682
1873	45				14	42	5817	15509	BROKEN MT	06 08 954	G B SCHALLER		ALA 2983
1873	45				14	42	5835	15551	DUMPLING MT	01 08 954	G B SCHALLER		ALA 2982
1873	45				14	43	5805	15305	RASPBERRY IS	15 06 945	W J EYERDAM	3716	ISC 255917
1873	45				14	43	5804	15304	RASPBERRY IS	25 08 946	W J EYERDAM	5229	ISC 255834
1873	45				14	43	5804	15304	RASPBERRY IS	25 08 946	W J EYERDAM	5218	ISC 255835
1873	45				14	43	5804	15304	RASPBERRY IS	25 08 946	W J EYERDAM	5205	ISC 255832
1873	45				14	43	5804	15304	RASPBERRY IS	25 08 946	W J EYERDAM	5205	ISC 256482
1873	45				14	43	5804	15304	RASPBERRY IS	25 08 946	W J EYERDAM	5220	ISC 255833
1873	45				14	43	5804	15304	RASPBERRY IS	25 08 946	W J EYERDAM	5229	ISC 255827
1873	45				14	45	5927	13519	SKAGWAY	23 07 934	J P ANDERSON	1639A	ISC 255809
1873	45				14	45	5927	13519	SKAGWAY	20 08 919	J P ANDERSON	740	ISC 85493
1873	45				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6330	GWA
1873	45				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6301	GWA
1873	45				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6331	GWA
1873	45				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6295	GWA
1873	45				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6294	GWA
1873	45				14	46	5915	13830	AZIMUTH PEAK.	20 6 967	G W ARGUS	6264	GWA
1873	45				14	46	5915	13830	AZIMUTH PEAK.	20 6 967	G W ARGUS	6265	GWA
1873	45				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6294	GWA
1873	45				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6295	GWA
1873	45				14	51	5940	15500	IGIUGIG	21 07 965	V L HARMS	4320	ALA 32559
1873	45				14	51	5943	15510	ILIAMMA L	19 07 965	V L HARMS	4220	ALA 32593
1873	45				14	52	5945	15841	LAKE KULIK	14 07 950	K A RAUP	439	ISC 219357
1873	45				14	56	6024	17235	ST MATTHEW IS	08 07 966	V L HARMS	5457	ALA 32671
1873	45				14	56	6024	17238	ST MATTHEW IS	04 07 966	V L HARMS	5452	ALA 32670
1873	45				14	56	6024	17238	ST MATTHEW IS	12 07 966	V L HARMS	5539	ALA 32672
1873	45				14	56	6024	17238	ST MATTHEW IS	02 07 966	V L HARMS	5381	ALA 32666
1873	45				14	56	6024	17238	ST MATTHEW IS	02 07 966	V L HARMS	5385	ALA 32667
1873	45				14	56	6024	17238	ST MATTHEW IS	02 07 966	V L HARMS	5391	ALA 32669
1873	45				14	56	6024	17238	ST MATTHEW IS	14 07 966	V L HARMS	5577	ALA 32676
1873	45				14	56	6024	17238	ST MATTHEW IS	18 07 966	V L HARMS	5632	ALA 32681
1873	45				14	56	6024	17238	ST MATTHEW IS	14 07 966	V L HARMS	5579	ALA 32677
1873	45				14	56	6024	17238	ST MATTHEW IS	01 07 966	V L HARMS	5379	ALA 32665
1873	45				14	56	6024	17238	ST MATTHEW IS		V L HARMS	5576	ALA 32675
1873	45				14	56	6024	17238	ST MATTHEW IS	18 07 966	V L HARMS	5635	ALA 32680
1873	45				14	56	6024	17238	ST MATTHEW IS	18 07 966	V L HARMS	5644	ALA 32679
1873	45				14	56	6024	17238	ST MATTHEW IS	18 07 966	V L HARMS	5649	ALA 32678
1873	45				14	56	6025	17235	ST MATTHEW IS	18 07 966	V L HARMS	5649	ALA 32678
1873	45				14	56	6024	17235	ST MATTHEW IS	08 07 966	V L HARMS	5457	GWA
1873	45				14	56	6024	17238	ST MATTHEW IS	04 07 966	V L HARMS	5452	GWA
1873	45				14	56	6024	17238	ST MATTHEW IS	14 07 966	V L HARMS	5579	GWA
1873	45				14	56	6024	17238	ST MATTHEW IS	18 07 966	V L HARMS	5635	GWA
1873	45				14	56	6024	17238	ST MATTHEW IS	18 07 966	V L HARMS	5644	GWA
1873	45				14	56	6024	17238	ST MATTHEW IS	18 07 966	V L HARMS	5649	GWA
1873	45				14	56	6030	17300	HALL IS	09 08 957	D R KLEIN	132	ALA 21486
1873	45				14	56	6030	17300	ST MATTHEW IS	21 07 957	D R KLEIN	59	ALA 21487
1873	45				14	56	6030	17300	ST MATTHEW IS	19 07 957	D R KLEIN	20	ALA 6620
1873	45				14	57	6012	16656	NUNIVAK IS	15 07 938	J P ANDERSON	3879	ISC 255795
1873	45				14	57	6002	16543	NUNIVAK IS	10 07 965	G BOS		ALA 32293
1873	45				14	57	6004	16716	NUNIVAK IS	11 08 965	G BOS	S.N.	ALA 32291
1873	45				14	57	6004	16716	NUNIVAK IS	11 08 965	G BOS		ALA 32292
1873	45				14	62	6020	15018	SKILAK L	09 08 952	D KLEIN	117	ALA 23023
1873	45				14	62	6020	15018	SKILAK L	09 08 952	D KLEIN	112	ALA 23029
1873	45				14	63	6006	14926	SEWARD	13 06 941	J P ANDERSON	6775	ISC 255909
1873	45				14	63	6055	14938	HOPE	07 06 941	J P ANDERSON	6546	ISC 255797
1873	45				14	63	6055	14938	HOPE	07 06 941	J P ANDERSON	6546	ISC 255925
1873	45				14	63	6032	14932	MOOSE PASS V	10 06 951	J A CALDER	5266	GWA
1873	45				14	63	6026	14952	STETSON CR	03 08 951	J A CALDER	6435	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	45				14	63	6049	14933	HOPE	26 07 951	J A CALDER	6241	GWA
1873	45				14	63	6006	14927	MT MARATHON	29 05 951	J A CALDER	4986	GWA
1873	45				14	63	6006	14927	MT MARATHON	13 07 951	J A CALDER	5854	GWA
1873	45				14	63	6024	14945	COOPER L	21 08 952	D KLEIN	196	ALA 23048
1873	45				14	63	6027	14820	NELLIE JUAN GL	17 08 957	L A VIERECK	2239	GWA
1873	45				14	64	6100	14702	HEATHER IS	02 08 957	L A VIERECK	2313	ALA 8405
1873	45				14	64	6100	14702	HEATHER IS	02 08 957	L A VIERECK	2313	GWA
1873	45				14	67	6137	14158	WRANGELL MT	21 07 967	D F MURRAY	1013	GWA
1873	45				14	67	6135	14207	N WRANGELL MT	16 06 967	R W SCOTT	1584	GWA
1873	45				14	67	6135	14207	N WRANGELL MT	16 06 967	R W SCOTT	1581	GWA
1873	45				14	67	6136	14156	N WRANGELL MT	11 07 967	R W SCOTT	1742	GWA
1873	45				14	67	6136	14158	N WRANGELL MT	23 06 967	R W SCOTT	1620	GWA
1873	45				14	68	6108	14544	THOMPSON PASS	05 07 935	J P ANDERSON	1888	ISC 255806
1873	45				14	68	6110	14542	WORTHINGTON GL	17 07 947	DUTILLY	21339	ISC 255913
1873	45				14	68	6110	14540	WORTHINGTON GL	08 08 957	L A VIERECK	2211	ALA 8383
1873	45				14	68	6145	14630	TAZALINA GL	19 07 957	L A VIERECK	2193	ALA 8384
1873	45				14	68	6110	14540	WORTHINGTON GL	08 08 957	L A VIERECK	2211	GWA
1873	45				14	68	6108	14548	THOMPSON PASS	01 08 967	L A VIERECK	8497	GWA
1873	45				14	68	6108	14610	VALDEZ GL	09 08 957	L A VIERECK	2228	GWA
1873	45				14	68	6145	14630	TAZALINE GL	19 07 957	L A VIERECK	2193	GWA
1873	45				14	68	6108	14548	THOMPSON PASS	01 08 967	L A VIERECK	8490	GWA
1873	45				14	69	6245	14915	WILLOW CR	12 07 931	J P ANDERSON	977	ALA 27309
1873	45				14	69	6245	14915	WILLOW CR	12 07 931	J P ANDERSON	977	ISC 255829
1873	45				14	69	6145	14915	WILLOW RD SUMM	09 07 951	G M FROHNE	5124	ALA 21793
1873	45				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	454	ALA 5220
1873	45				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	393	ALA 5987
1873	45				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	391	ALA 5964
1873	45				14	69	6104	14905	GIRDWOOD MINE	07 07 957	L A VIERECK	2051	GWA
1873	45				14	69	6146	14918	HATCHER PASS	16 07 965	S L WELSH	4710	ISC 247095
1873	45				14	69	6146	14918	HATCHER PASS	16 07 965	S L WELSH	4705	ISC 247099
1873	45				14	69	6117	14858	EKLUTNA GL	18 06 965	S L WELSH	4196	ISC 246150
1873	45				14	69	6146	14918	HATCHER PASS	16 07 965	S L WELSH	4714	ISC 247141
1873	45				14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4112	CAN
1873	45				14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4131	CAN
1873	45				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1821	CAN
1873	45				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1896	CAN
1873	45				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1894	CAN
1873	45				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1893	CAN
1873	45				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1892	CAN
1873	45				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1820	CAN
1873	45				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1496	CAN
1873	45				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1494	CAN
1873	45				14	75	6137	16600	KOKECHIK BAY	03 07 960	N G BLURTON JONES	68	ALA 24433
1873	45				14	77	6200	16434	KUSILVAK MT	26 06 945	H C KYLLINGSTAD	22	ISC 255817
1873	45				14	77	6200	16434	KUSILIVAK MT	26 06 945	H C KYLLINGSTAD	21	ISC 255921
1873	45				14	79	6259	15604	TAKOTNA	25 07 941	J P ANDERSON	7377	ALA 497
1873	45				14	79	6259	15604	TAKOTNA	25 07 941	J P ANDERSON	7377	ISC 255919
1873	45				14	79	6256	15601	TAKOTNA MT	09 07 948	R L LAYDEN	177	ISC 255923
1873	45				14	79	6259	15606	TAKOTNA	03 07 940	E SCAMMAN	1833	ALA 8398
1873	45				14	80	6233	15336	FAREWELL MT.	8 8 949	W H DRURY	2764	CAN
1873	45				14	80	6233	15336	FAREWELL MT.	8 8 949	W H DRURY	2725	CAN
1873	45				14	80	6228	15350	FAREWELL	13 8 949	W H DRURY	2826	CAN
1873	45				14	80	6233	15336	FAREWELL MT.	8 8 949	W H DRURY	2721	CAN
1873	45				14	82	6203	14714	TALKEETNA MTS	28 06 941	J P ANDERSON	6998	ALA 498
1873	45				14	82	6203	14714	TALKEETNA MTS	28 06 941	J P ANDERSON	6998	ISC 255816
1873	45				14	85	6340	14213	MT FAIRPLAY	22 07 948	J P ANDERSON	10805	ISC 255804
1873	45				14	85	6341	14213	TAYLOR HWY M34	27 06 963	J NAVA	69	ALA 23944
1873	45				14	85	6323	14345	NUTZOTIN MTS	12 08 944	H M RAUP	12779	ALA 19467
1873	45				14	85	6323	14345	NUTZOTIN MTS	12 08 944	H M RAUP	12779	GWA
1873	45				14	85	6310	14330	SLIPPERY RK CR	19 07 957	L A SPETZMAN	723	ALA 6837
1873	45				14	85	6331	14258	SIXTYML RD M21	26 06 966	S L WELSH	5593	GWA
1873	45				14	86	6333	14552	RAPIDS LODGE	12 07 935	J P ANDERSON	2220	ISC 255828
1873	45				14	86	6313	14539	GULKANA GL	10 07 935	J P ANDERSON	S.N.	ISC 255924
1873	45				14	86	6335	14603	PILLSBURY DOME	26 07 948	J P ANDERSON	10858	ISC 255821
1873	45				14	86	6315	14530	GULKANA GL	19 07 957	G W ARGUS	1141	GWA
1873	45				14	86	6315	14530	GULKANA GL	19 07 957	G W ARGUS	1138	GWA
1873	45				14	86	6347	14545	DONNELY DOME	30 06 957	G W ARGUS	1073	GWA
1873	45				14	86	6347	14545	DONNELY DOME	26 05 951	W J CODY	4871	SASK 33105
1873	45				14	86	6347	14545	DONNELLY DOME	26 05 951	W J CODY	4873	GWA
1873	45				14	86	6347	14545	DONNELY DOME	26 05 951	W J CODY	4871	GWA
1873	45				14	86	6305	14545	PAXSON	17 07 965	V L HARMS	4196	ALA 32661
1873	45				14	86	6305	14545	PAXSON	17 07 965	V L HARMS	4199	ALA 32657
1873	45				14	86	6345	14554	DONNELLY DOME	01 07 964	V L HARMS	2843	ALA 32604
1873	45				14	86	6330	14535	RAINBOW MT	09 06 965	V L HARMS	3561	ALA 32656
1873	45				14	86	6330	14535	RAINBOW MT	09 06 965	V L HARMS	3575	ALA 32651
1873	45				14	86	6310	14451	SLATE CR	01 06 941	L J PALMER		ALA 5155
1873	45				14	86	6357	14658	W FK LTL DELTA	06 941	L J PALMER	484	ALA 5627
1873	45				14	86	6357	14658	W FK LTL DELTA	06 941	L J PALMER	519	ALA 5637
1873	45				14	86	6320	14535	PAXSON	04 07 966	C PARKER	RM36	ALA 32687
1873	45				14	86	6325	14545	BLACK RAPIDS G	16 07 957	L A VIERECK	2134	GWA
1873	45				14	86	6325	14545	BLACK RAPIDS G	16 07 957	L A VIERECK	2134	ALA 8413
1873	45				14	86	6302	14552	PAXON	17 07 968	S L WELSH	8297	GWA
1873	45				14	86	6303	14557	TANGLE LAKE	18 07 968	S L WELSH	8312	GWA
1873	45				14	87	6351	14858	HEALY	23 07 939	J P ANDERSON	5763	ISC 255810
1873	45				14	87	6351	14858	HEALY	23 07 939	J P ANDERSON	5763	ISC 255810
1873	45				14	87	6351	14858	HEALY	23 07 939	J P ANDERSON	5761	ISC 255933
1873	45				14	87	6351	14858	HEALY	23 07 939	J P ANDERSON	5761	ISC 255933
1873	45				14	87	6342	14929	SANCTUARY R	29 07 956	G W ARGUS	696	GWA
1873	45				14	87	6342	14929	SANCTUARY R	29 07 956	G W ARGUS	696	ALA 4731
1873	45				14	87	6345	14920	SAVAGE R CAN	17 06 965	B FABER	S.N.	ALA 30967
1873	45				14	87	6331	14956	POLYCHROME PAS	14 07 939	A NELSON	3781	ISC 255808

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	45				14	87	6331	14956	POLYCHROME PAS	14 07 939	A NELSON	3781	ALA 495
1873	45				14	87	6323	14856	CANTWELL	10 07 927	L J PALMER	1940	ALA 5196
1873	45				14	87	6335	14843	CARLO MT	30 07 967	L A VIERECK	8413A	GWA
1873	45				14	87	6336	14845	CARLO MT	30 07 967	L A VIERECK	8415	GWA
1873	45				14	87	6356	14728	DRY CREEK	25 06 962	L A VIERECK	5718	GWA
1873	45				14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	647	GWA
1873	45				14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	645	GWA
1873	45				14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	636	GWA
1873	45				14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	637	GWA
1873	45				14	88	6332	15058	CAMP DENALI	23 07 956	G W ARGUS	648	GWA
1873	45				14	88	6325	15010	HWY PASS	21 07 956	G W ARGUS	627	GWA
1873	45				14	88	6325	15020	CAMP EIELSON	27 07 956	G W ARGUS	679	GWA
1873	45				14	88	6328	15010	HWY PASS	21 07 956	G W ARGUS	631	GWA
1873	45				14	88	6325	15020	CAMP EIELSON	27 07 956	G W ARGUS	674	GWA
1873	45				14	88	6328	15010	HWY PASS	21 07 956	G W ARGUS	632	ALA 4561
1873	45				14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	636	ALA 4733
1873	45				14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	637	ALA 4729
1873	45				14	88	6325	15020	CAMP EIELSON	27 07 956	G W ARGUS	679	ALA 4740
1873	45				14	88	6325	15020	CAMP EIELSON	27 07 956	G W ARGUS	674	ALA 4727
1873	45				14	88	6330	15100	KANTISHNA	03 07 954	G M FROHME	54318	ALA 21788
1873	45				14	88	6326	15033	MCK PK RD M68	19 06 960	A MURIE	2	GWA
1873	45				14	88	6326	15033	MCK PK RD M68	19 06 960	A MURIE	3	GWA
1873	45				14	88	6326	15033	MCK PK RD M68	19 06 960	A MURIE	1	GWA
1873	45				14	88	6328	15052	WONDER LAKE	19 07 939	A NELSON	3843	TSC 255931
1873	45				14	88	6328	15052	WONDER LAKE	19 07 939	A NELSON	3843	ALA 496
1873	45				14	88	6326	15012	MCK PK RD M63	28 06 962	R RICHEY		ALA 26101
1873	45				14	88	6325	15015	MCK PK RD M64	30 06 962	R RICHEY		ALA 26100
1873	45				14	88	6326	15012	MCK PK RD M63	27 06 962	R RICHEY	S.N.	ALA 26099
1873	45				14	88	6325	15020	CAMP EIELSON	14 08 947	E SCAMMAN	4994	GWA
1873	45				14	88	6327	15050	WONDER L	21 07 959	L SCHENE		ALA 25317
1873	45				14	88	6324	15025	GLACIER CR	10 07 958	L A VIERECK	3194	FSLC
1873	45				14	88	6324	15025	GLACIER CR	10 07 958	L A VIERECK	3181	GWA
1873	45				14	88	6324	15025	GLACIER CR	10 07 958	L A VIERECK	3194	GWA
1873	45				14	88	6324	15025	GLACIER CR	10 07 958	L A VIERECK	3190	GWA
1873	45				14	88	6324	15032	MULDROW GL	12 08 956	L A VIERECK	1786	GWA
1873	45				14	88	6325	15020	MT EIELSON	11 07 956	L A VIERECK	1238	ALA 11608
1873	45				14	88	6327	15050	WONDER L	02 08 956	L A VIERECK	1657	ALA 11626
1873	45				14	88	6326	15035	MCK PK RD M70	12 08 956	L A VIERECK	1774	ALA 11606
1873	45				14	92	6329	16202	ST MICHAEL	19 06 938	J P ANDERSON	3450	TSC 255831
1873	45				14	93	6342	17029	SAVOONGA	27 06 938	J P ANDERSON	3667	TSC 255791
1873	45				14	93	6321	17136	BOXER BAY	12 08 933	O W GEIST	079	ALA 29381
1873	45				14	93	6321	17136	BOXER BAY	12 08 933	O W GEIST	080	ALA 29512
1873	45				14	93	6342	17029	SAVOONGA	03 07 933	O W GEIST	115	ALA 29455
1873	45				14	93	6342	17029	SAVOONGA	11 07 933	O W GEIST	101	ALA 29406
1873	45				14	93	6342	17029	SAVOONGA	03 07 933	O W GEIST	114	ALA 29407
1873	45				14	93	6342	17029	SAVOONGA	11 07 933	O W GEIST	108	ALA 29405
1873	45				14	93	6334	17053	KANGEE CAMP	933	O W GEIST	S.N.	ALA 29478
1873	45				14	93	6322	17117	POWOOILIAK	17 08 933	O W GEIST	173	ALA 29457
1873	45				14	93	6322	17117	POWOOILIAK	17 08 933	O W GEIST	172	ALA 29456
1873	45				14	93	6322	17117	POWOOILIAK	17 08 933	O W GEIST	S.N.	ALA 29712
1873	45				14	93	6342	17029	SAVOONGA	11 07 933	O W GEIST	100	ALA 29770
1873	45				14	93	6333	17002	ST LAWRENCE IS	933	O W GEIST	S.N.	ALA 29717
1873	45				14	93	6335	17010	BOXER R VALLEY	22 06 960	E G SAUER	F3	WIS
1873	45				14	94	6446	16523	MT DISTIN	04 07 938	J P ANDERSON	3769	TSC 255926
1873	45				14	94	6430	16530	ANVIL MT	08 06 954	C HELLER	968	ALA 26943
1873	45				14	94	6430	16530	NOME	17 06 954	C HELLER	1082	ALA 24329
1873	45				14	94	6430	16530	NOME	16 06 954	C HELLER	1078	ALA 24330
1873	45				14	94	6446	16630	CAPE WOOLLEY	16 7 969	R F PEGAU	27469	GWA
1873	45				14	94	6430	16525	NOME	14 07 966	S L WELSH	5849	GWA
1873	45				14	94	6430	16530	NOME	14 07 966	S L WELSH	5864	GWA
1873	45				14	95	6458	16310	WHITE MT	05 09 966	R PEGAU	W14	GWA
1873	45				14	95	6458	16310	WHITE MT	05 09 966	R PEGAU	W14	ALA 32700
1873	45				14	99	6500	15038	MANLEY HOT SPR	26 06 965	S L WELSH	4409	ISC 246963
1873	45				14	99	6500	15038	MANLEY HOT SPR	26 06 965	S L WELSH	4409	ALA 29999
1873	45				14	100	6453	14803	ESTER DOME	20 07 967	L A VIERECK	8307	GWA
1873	45				14	101	6425	14435	GOODPASTOR R	08 07 956	A W JOHNSON	92	ALA 27147
1873	45				14	101	6409	14550	BIG DELTA	24 06 965	S L WELSH	4336A	ISC 246878
1873	45				14	104	6529	14525	EAGLE SUMMIT	18 07 935	J P ANDERSON	2466	ISC 255805
1873	45				14	104	6523	14555	TWELVE MI SUMM	15 07 967	V L HARMS	6119	ALA 34633
1873	45				14	104	6525	14520	EAGLE SUMMIT	30 06 959	T P O:FARRELL	61	ALA 9627
1873	45				14	104	6530	14525	EAGLE SUMMIT	12 06 940	E SCAMMAN	2049	ALA 8397
1873	45				14	104	6530	14525	EAGLE SUMMIT	12 06 940	E SCAMMAN	2049	SASK 34211
1873	45				14	104	6530	14525	EAGLE SUMMIT	23 07 951	E SCAMMAN	6207	GWA
1873	45				14	104	6530	14525	EAGLE SUMMIT	12 06 940	E SCAMMAN	2049	GWA
1873	45				14	104	6529	14525	EAGLE SUMMIT	07 07	E SCAMMAN	600	GWA
1873	45				14	104	6529	14525	EAGLE SUMMIT	23 06 945	E SCAMMAN	3499	GWA
1873	45				14	104	6531	14513	MILLER HOUSE	04 06 953	S G SMITH	1770A	ALA 10614
1873	45				14	104	6517	14629	SOURDOUGH CR	09 08 953	S G SMITH	2005	ALA 10728
1873	45				14	104	6517	14629	SOURDOUGH CR	09 08 953	S G SMITH	2005	GWA
1873	45				14	104	6531	14513	MILLER HOUSE	04 06 953	S G SMITH	1770B	GWA
1873	45				14	104	6531	14513	MILLER HOUSE	04 06 953	S G SMITH	1770A	GWA
1873	45				14	104	6530	14525	EAGLE SUMMIT	25 07 964	L A VIERECK	7364	FSLC 300
1873	45				14	104	6530	14525	EAGLE SUMMIT	25 07 964	L A VIERECK	7370	FSLC 298
1873	45				14	105	6505	14730	PEDRO DOME	14 07 956	G W ARGUS	576	ALA 22444
1873	45				14	105	6505	14730	PEDRO DOME	14 07 956	G W ARGUS	576	ALA 4901
1873	45				14	105	6505	14730	PEDRO DOME	14 07 956	G W ARGUS	576	GWA
1873	45				14	105	6519	14818	TATALINA	28 05 958	S G SMITH	1752	ALA 10615
1873	45				14	105	6519	14818	TATALINA	28 05 953	S G SMITH	1752	ALA 10644
1873	45				14	105	6503	14726	CLEARY SUMMIT	15 06 954	S G SMITH	2363	ALA 10729
1873	45				14	105	6519	14818	TATALINA	28 05 958	S G SMITH	1752B	GWA
1873	45				14	105	6519	14818	TATALINA	28 05 953	S G SMITH	1752	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	45				14	105	6503	14726	CLEARY SUMMIT	15 06 954	S G SMITH	2363	GWA
1873	45				14	111	6533	16751	TIN CITY	19 08 938	J P ANDERSON	4881	ISC 255794
1873	45				14	111	6458	16804	KING ISLAND	25 06 938	J P ANDERSON	36078	ISC
1873	45				14	111	6458	16804	KING ISLAND	25 06 938	J P ANDERSON	36078	GWA
1873	45				14	111	6458	16804	KING ISLAND	08 06 959	G J HARBO	8	ALA 24810
1873	45				14	111	6459	16801	KING ISLAND	15 06 968	R PEGAU	3968	GWA
1873	45				14	111	6459	16801	KING ISLAND	24 6 969	R F PEGAU	12769	GWA
1873	45				14	113	6604	16242	DEERING	13 08 938	J P ANDERSON	4808	ISC 256587
1873	45				14	113	6654	16235	KOTZEBUE	17 08 951	E SCAMMAN	6460	GWA
1873	45				14	113	6655	16240	KOTZEBUE	09 07 966	S L WELSH	5735	GWA
1873	45				14	124	6725	15006	WISEMAN	01 08 939	J P ANDERSON	5877	ISC 255819
1873	45				14	124	6725	15007	WISEMAN	10 07 962	R BROCKMAN	2620	ALA 28481
1873	45				14	126	6743	15609	ISIAK LAKE	02 08 960	P C LENT	15	ALA 29326
1873	45				14	129	6821	16647	POINT HOPE	09 08 938	J P ANDERSON	4602	ISC 256405
1873	45				14	129	6819	16640	POINT HOPE	09 08 938	J P ANDERSON	4601	ISC 255811
1873	45				14	129	6821	16647	POINT HOPE	08 08 938	J P ANDERSON	4577	ISC 255932
1873	45				14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5952	GWA
1873	45				14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5949	GWA
1873	45				14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5966	GWA
1873	45				14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5969	GWA
1873	45				14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5948	GWA
1873	45				14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5965	GWA
1873	45				14	129	6815	16600	CAPE THOMPSON	14 06 960	L H BELSON	S.N.	ALA 28806
1873	45				14	129	6815	16600	EBRULIKORUK CR	10 07 960	L H BELSON		ALA 28797
1873	45				14	129	6815	16600	CAPE THOMPSON	06 960	L H BELSON		ALA 28829
1873	45				14	129	6810	16540	OGOTORUK CR	18 06 959	A W JOHNSON	5	ALA 9174
1873	45				14	129	6810	16540	OGOTORUK CR	28 06 959	A W JOHNSON	213	ALA 9182
1873	45				14	129	6810	16540	OGOTORUK CR	05 08 959	A W JOHNSON	615	ALA 9175
1873	45				14	129	6810	16540	OGOTORUK CR	14 07 959	A W JOHNSON	382	ALA 9204
1873	45				14	129	6810	16540	OGOTORUK CR	28 06 959	A W JOHNSON	213	SASK 33104
1873	45				14	129	6810	16540	OGOTORUK CR	18 06 959	A W JOHNSON	5	GWA
1873	45				14	129	6810	16540	OGOTORUK CR	28 06 959	A W JOHNSON	213	GWA
1873	45				14	129	6810	16540	OGOTORUK CR	05 08 959	A W JOHNSON	615	GWA 9175
1873	45				14	129	6810	16540	OGOTORUK CR	14 07 959	A W JOHNSON	382	GWA 9204
1873	45				14	129	6810	16540	OGOTORUK CREEK	22 06 961	R JOHNSON	35	ALA 17671
1873	45				14	129	6840	16537	KUKPUK RIVER	09 08 964	H R MELCHIOR	655	GWA
1873	45				14	129	6840	16537	KUKPUK RIVER	09 08 964	H R MELCHIOR	654	GWA
1873	45				14	129	6840	16637	KUKPUK RIVER	01 07 963	H R MELCHIOR	446	GWA
1873	45				14	129	6842	16615	KIPALOG CREEK	19 07 960	L A VIERECK	4170	ALA 13231
1873	45				14	129	6819	16640	POINT HOPE	08 07 960	L A VIERECK	4031	ALA 13232
1873	45				14	129	6819	16640	POINT HOPE	11 07 966	S L WELSH	5797	GWA
1873	45				14	136	6804	14503	OLD JOHN LAKE	09 08 957	S G SHETLER	AF161	GWA
1873	45				14	136	6804	14503	OLD JOHN LAKE	08 08 954	S G SMITH	2563	ALA 10738
1873	45				14	136	6804	14503	OLD JOHN LAKE	08 08 954	S G SMITH	2563	GWA 10738
1873	45				14	137	6822	14355	SHEENJEK R	22 06 956	B KESSEL	544	ALA 5051
1873	45				14	137	6822	14355	SHEENJEK R	15 06 956	B KESSEL	517	ALA 5045
1873	45				14	137	6822	14355	SHEENJEK R	15 06 956	B KESSEL	517	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5915	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5887	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	08 08 966	G W ARGUS	5876	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5920	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5914	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5882	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5917	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5886	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5918	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5905	GWA
1873	45				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5889	GWA
1873	45				14	139	6924	14608	CANNING RIVER	21 07 947	L A SPETZMAN	328	ISC 255802
1873	45				14	140	6950	14815	SAGAVANIRKTOK	31 07 958	J W THOMSON		WIS
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5530	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5589	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5607	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5667	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5660	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5524	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5522	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5521	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT		G W ARGUS	5571	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5578	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5528	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5529	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5561	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5475	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5666	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5526	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5527	GWA
1873	45				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5525	GWA
1873	45				14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5256	GWA
1873	45				14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5227	GWA
1873	45				14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5257	GWA
1873	45				14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5263	GWA
1873	45				14	147	7031	15724	MEADE RIVER PO	19 08 960	O W GEIST		ALA 27630
1873	45				14	148	7049	15442	TESHEKPUK	30 08 947	R F BLACK	S.N.	ISC 256552
1873	45				14	148	7049	15442	TESHEKPUK	30 08 947	R F BLACK	S.N.	ISC 255920
1873	45				14	150	7012	14716	SHAVIOVIK R	06 06 947	L A SPETZMAN	2168	ISC 250234
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5732	GWA
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5742	GWA
1873	45				14	151	7010	14650	BULLEN		G W ARGUS	5736	GWA
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5752	GWA
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5758	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5737	GWA
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5766	GWA
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5733	GWA
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5748	GWA
1873	45				14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5805	GWA
1873	45				14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5809	GWA
1873	45				14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5807	GWA
1873	45				14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5806	GWA
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5757	GWA
1873	45				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5753	GWA
1873	45				14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5859	GWA
1873	45				14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5848	GWA
1873	45				14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5846	GWA
1873	45				14	152	6839	14100	FIRTH RIVER	16 06 961	E L LITTLE, JR.	18485	GWA
1873	45				14	152	6839	14100	FIRTH RIVER	16 06 961	E L LITTLE, JR.	18484	GWA
46	FUSCESCENS												
1873	46				7	133	6932	13349	RICHARDS IS	29 07 947	A E PORSILD	16816	CAN 46460
1873	46				7	133	6930	13347	RICHARDS IS	24 07 966	G W SCOTTER	10120	GWA
1873	46				7	134	6942	12856	ANDERSON RIVER	23 07 965	G W SCOTTER	6958	GWA
1873	46				7	135	6924	13257	TUKTOYAKTUK	09 08 965	G W SCOTTER	6990	GWA
1873	46				7	152	6813	13554	CANOE L.	18 7 963	W J CODY	12095	DAO
1873	46				7	152	6845	13412	MACK R E BRAN	28 06 934	A E PORSILD	6955	GWA
1873	46				7	152	6839	13405	REINDEER STN	03 08 965	G W SCOTTER	6975	GWA
1873	46				7	170	6745	13601	HORNE L.	5 7 962	J A CALDER	33865	DAO
1873	46				7	188	6745	10050	KANGOWAN LAKE	09 07 966	S SVERRE		CAN 307168
1873	46				7	402	6050	9425	MCCONNELL R	10 07 967	K L MACINNES	605	UWO
1873	46				7	402	6050	9425	MCCONNELL R	02 07 967	K L MACINNES	602	UWO
1873	46				7	402	6050	9425	MCCONNELL R	02 07 967	K L MACINNES	653	UWO
1873	46				12	4	6825	13800	SAM LAKE	30 6 970	S L WELSH	10028	OTF 1205
1873	46				12	6	6718	13748	BELL RIVER	28 07 964	P YOUNGMAN	608	CAN 283830
1873	46				12	15	6451	13825	DEMPSTR RD M57	27 06 966	R T PORSILD	16	CAN 303396
1873	46				14	25	5520	16248	COLD BAY	19 7 971	M WILLIAMS	2900	GWA
1873	46				14	35	5705	15425	OLGA BAY	11 06 938	E LOOFF	351	NA 319642
1873	46				14	35	5705	15425	OLGA BAY	10 06 940	E LOOFF	1283	A
1873	46				14	35	5705	15425	OLGA BAY	11 06 938	E LOOFF	351	DAO 32786
1873	46				14	35	5705	15425	OLGA BAY	08 06 938	E LOOFF	350	DAO 32787
1873	46				14	36	5732	15725	UGASHIK	04 07 967	D STREUBEL	S.N.	ALA 34728
1873	46				14	39	5834	16146	CAPE PEIRCE	7 6 970	L DICK	51	GWA
1873	46				14	41	5858	15711	COPENHAGEN CR	14 06 959	A S MOSSMAN		ALA 23579
1873	46				14	41	5858	15711	COPENHAGEN CR	14 07 959	A S MOSSMAN		ALA 23585
1873	46				14	41	5852	15700	KOGGIUNG	17 06 953	E H MULLER	1045	ISC 224499
1873	46				14	41	5844	15701	NAKNEK	03 07 952	W B SCHOFIELD	1948	US 2331516
1873	46				14	41	5842	15639	KING SALMON	07 07 952	W B SCHOFIELD	20578	NY
1873	46				14	42	5819	15406	KUKAK BAY	01 07 899	F COVILLE	1660	US 373487
1873	46				14	42	5819	15406	KUKAK BAY	01 07 899	S COVILLE	1660	A
1873	46				14	42	5833	15547	BROOKS FALLS	30 07 919	A MILLER		US 1072534
1873	46				14	50	5947	15150	STERL HWY M159	13 06 967	L A VIERECK	8266	GWA
1873	46				14	51	5937	15333	ILIAMNA BAY	22 06 902	M GORMAN	41	US 420054
1873	46				14	52	5940	15606	IGIUGIG	21 07 965	V L HARMS	4382	ALA 32608
1873	46				14	52	5923	15610	ILIAMNA	20 07 965	V L HARMS	4244	ALA 32592
1873	46				14	52	5904	15826	SNAG POINT	19 06 951	E H MULLER	627	US 2176386
1873	46				14	52	5903	14826	KANAKANAK	30 06 950	K A RAUP	369	CAN
1873	46				14	52	5903	15832	KANAKANAK	25 06 946	J STEWART	176	US 2232021
1873	46				14	55	5958	16658	DUCHIKMIUT R	20 08 965	G BOS		ALA 32290
1873	46				14	56	6025	17235	ST MATTHEW IS	15 07 899	F COVILLE	2087A	US 2440623
1873	46				14	56	6025	17235	ST MATTHEW IS	15 07 899	F COVILLE	2087A	US 373490
1873	46				14	56	6024	17242	ST MATTHEW IS	15 07 899	F V COVILLE	20879	US 373490
1873	46				14	56	6025	17235	ST MATTHEW IS	18 07 966	V L HARMS	5649	GWA
1873	46				14	56	6025	17235	ST MATTHEW IS	29 07 957	D R KLEIN	63	ALA 6600
1873	46				14	57	6015	16648	NASH HBR	15 07 938	J P ANDERSON	3878	ISC 255884
1873	46				14	57	6009	16643	TWIN MT	10 07 965	G BOS		ALA 32285
1873	46				14	57	6015	16614	MEKERYUK	23 07 929	W R MILLER	174C	ALA 2770
1873	46				14	57	6015	16614	MEKERYUK	23 07 929	W R MILLER	174C	ALA 2023
1873	46				14	57	6015	16614	MEKERYUK	23 07 965	R PEGAU	W16	GWA
1873	46				14	57	6015	16614	MEKERYUK	15 07 966	R PEGAU	W18	GWA
1873	46				14	57	6015	16614	MEKERYUK	15 07 965	R PEGAU	W18	ALA 32698
1873	46				14	57	6024	16610	CAPE ETOLIN	26 08 932	C H ROUSE	11	ISC 255879
1873	46				14	57	6024	16610	CAPE ETOLIN	26 08 932	C H ROUSE	11	ISC 255880
1873	46				14	57	6015	16614	MEKERYUK	17 06 949	D L SPENCER	9	ISC 255894
1873	46				14	57	6000	16600	NUNIVAK IS	954	P STETTENHEIM	S.N.	MICH
1873	46				14	62	6023	15118	KASILOF	07 898	W EVANS	682	US 342369
1873	46				14	62	6031	15046	STERL HWY M71	13 07 968	S L WELSH	8178	GWA
1873	46				14	63	6033	15116	KENAI	31 05 951	J A CALDER	5006	US 2331432
1873	46				14	63	6033	15116	KENAI	31 05 951	J A CALDER	5005	NY
1873	46				14	63	6033	15116	KENAI	31 05 951	J A CALDER	5005	GH
1873	46				14	63	6033	15116	KENAI	12 07 951	D KLEIN	449	ISC 255883
1873	46				14	63	6010	14930	SEWARD	20 06 962	L J ROWINSKI	S.N.	ALA 25631
1873	46				14	69	6128	14922	EKLUTNA	26 06 941	J P ANDERSON	6951	ISC 255888
1873	46				14	69	6156	14710	GLENN HWY M128	14 06 944	J P ANDERSON	8466	ISC 256013
1873	46				14	69	6156	14710	GLENN HWY M128	14 06 944	J P ANDERSON	8466	GWA
1873	46				14	69	6113	14954	ANCHORAGE	10 07 948	DUTILLY	23441	ISC 255893
1873	46				14	69	6124	14929	BIRCHWOOD FLAT	01 06 948	E LEPAGE	23043	ISC 255892
1873	46				14	69	6124	14929	BIRCHWOOD FLAT	01 06 948	E LEPAGE	23044	ISC 255891
1873	46				14	69	6140	14900	MATANUSKA VALL	940	L J PALMER	353	ALA 5986
1873	46				14	69	6140	14900	MATANUSKA VALL	940	L J PALMER	402	ALA 5631
1873	46				14	70	6147	15010	WILLOW CREEK	17 07 940	L J PALMER	353	NA
1873	46				14	70	6147	15010	WILLOW CREEK	17 07 940	L J PALMER	353	NA
1873	46				14	71	6152	15433	HEAD OF BIG R.	4 7 950	W H DRURY	3872A	CAN

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	46				14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4222	CAN
1873	46				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1516	CAN
1873	46				14	73	6134	15934	ANIAK REGION	28 6 949	W H DRURY	1666	CAN
1873	46				14	73	6134	15934	ANIAK REGION	28 6 949	W H DRURY	1656	CAN
1873	46				14	73	6135	15915	ANIAK	2 7 949	W H DRURY	1735	CAN
1873	46				14	75	6155	16550	SCAMMON BAY	16 06 961	E HULTEN		US 2384884
1873	46				14	75	6143	16608	KOKECHIK BAY	19 07 952	P HUMPHREY	13	MICH
1873	46				14	75	6159	16558	IGIAK BAY	03 07 960	N G JONES	70	ALA 24424
1873	46				14	75	6159	16558	IGIAK BAY	03 07 960	N G JONES	37	ALA 24425
1873	46				14	77	6205	16343	MOUNTAIN VILGE		H C KYLLINGSTAD		TSC 256222
1873	46				14	79	6227	15800	FLAT	14 6 949	W H DRURY	1380	CAN
1873	46				14	80	6247	15544	KUSKOKWIM R.	21 7 949	W H DRURY	2160	CAN
1873	46				14	81	6225	15125	LAKE CHELATNA	21 06 956	L A VIERECK	1017	ALA 11630
1873	46				14	81	6225	15125	LAKE CHELATNA	21 06 956	L A VIERECK	1017	GWA
1873	46				14	83	6233	14526	RICH HWY M150	25 06 947	DUTILLY	20435	NA 329375
1873	46				14	83	6233	14526	RICH HWY M150	25 06 947	DUTILLY	20435	NA 329375
1873	46				14	86	6311	14533	ISABEL PASS	10 07 935	J P ANDERSON	2171	TSC 255896
1873	46				14	86	6338	14443	HORN HOUNTAIN	06 957	L A SPETZMAN		US 2349423
1873	46				14	86	6342	14430	UPPER DRY CR	03 08 957	L A SPETZMAN	1019	ALA 06870
1873	46				14	86	6342	14430	UPPER DRY CR	03 08 957	L A SPETZMAN	1019	US 2384222
1873	46				14	87	6350	14925	MCK PK RD M78	31 07 953	A MURIE	1	GWA
1873	46				14	87	6315	14915	SUMMIT	27 07 967	L A VIERECK	8393	GWA
1873	46				14	87	6309	14926	SUMMIT	21 07 967	L A VIERECK	8403	GWA
1873	46				14	88	6326	15040	MCKINLEY PARK	05 07 956	L A VIERECK	1105	ALA 11627
1873	46				14	88	6327	15050	WONDER L	29 07 956	L A VIERECK	1572	ALA 3496
1873	46				14	88	6327	15050	WONDER L	29 07 956	L A VIERECK	1572	GWA
1873	46				14	89	6315	15520	NIXON FORK	12 6 950	W H DRURY	3728	CAN
1873	46				14	89	6315	15517	NIXON FORK	10 6 950	W H DRURY	3674	CAN
1873	46				14	89	6315	15517	NIXON FORK	10 6 950	W H DRURY	3625	CAN
1873	46				14	89	6315	15517	NIXON FORK	10 6 950	W H DRURY	3638	CAN
1873	46				14	90	6310	15631	OPHIR	26 06 940	E SCAMMAN	1832	GWA
1873	46				14	91	6352	16047	UNALAKLEET	12 06 938	J P ANDERSON	3265	TSC 255886
1873	46				14	91	6352	16047	UNALAKLEET	27 08 894	F FUNSTON	232	NY
1873	46				14	91	6352	16047	UNALAKLEET	16 08 920	L J PALMER	74	ALA 2038
1873	46				14	91	6352	16047	UNALAKLEET	16 08 920	L J PALMER	79	ALA 2037
1873	46				14	92	6329	16202	ST MICHAEL	19 06 938	J P ANDERSON	3448	TSC 255885
1873	46				14	92	6329	16202	ST MICHAEL	08 06 931	H MASON	6043	US 1789423
1873	46				14	92	6329	16202	ST MICHAEL	08 06 931	H MASON	6044	US 1789424
1873	46				14	92	6329	16202	ST MICHAEL	08 06 931	H MASON	6044	GH
1873	46				14	92	6329	16202	ST MICHAEL	08 06 931	H MASON	6043	GH
1873	46				14	92	6302	16318	PASTOLIAK	05 07 923	W B MILLER	4C	ALA 2022
1873	46				14	92	6302	16333	KOTLIK	10 07 926	A E PORSILD	867	GH
1873	46				14	92	6302	16333	KOTLIK	10 07 926	A E PORSILD	867	CAN
1873	46				14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	33	ALA 2043
1873	46				14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	33	ALA 2047
1873	46				14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	32	ALA 2048
1873	46				14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	32	ALA 25453
1873	46				14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	36	ALA 2046
1873	46				14	92	6302	16333	KOTLIK	07 07 931	C H ROUSE	36	ALA 25443
1873	46				14	92	6335	16230	STUART IS	29 07 931	C H ROUSE	23	ALA 2054
1873	46				14	92	6335	16230	STUART IS	29 07 931	C H ROUSE	23	ALA 25457
1873	46				14	93	6330	17135	ST LAWRENCE IS	933	O W GEIST	S.N.	ALA 29717
1873	46				14	93	6320	17136	BOXER BAY	933	O W GEIST	11	ALA 29454
1873	46				14	93	6320	17136	BOXER BAY	933	O W GEIST	12	ALA 29397
1873	46				14	93	6320	17136	BOXER BAY	933	O W GEIST	14	ALA 29399
1873	46				14	93	6330	17030	ST LAWRENCE IS	933	O W GEIST	S.N.	ALA 29366
1873	46				14	93	6302	16850	PUNUK ISLANDS	934	O W GEIST	S.N.	ALA 29365
1873	46				14	94	6430	16530	NOME	18 06 954	C HELLER	1107	ALA 24325
1873	46				14	94	6430	16525	NOME	914	G HILL	84	US 539161
1873	46				14	94	6433	16535	NOME	14 07 966	R PEGAU	W9	ALA 32705
1873	46				14	94	6440	16521	NOME	07 09 968	R PEGAU	24868	GWA
1873	46				14	94	6433	16535	NOME	14 07 966	R PEGAU	W9	GWA
1873	46				14	94	6433	16535	NOME	06 08 966	R PEGAU	W8	GWA
1873	46				14	94	6430	16525	NOME	01 07 929	C THORNTON	609	US 1438551
1873	46				14	94	6430	16525	NOME	28 07 929	C THORNTON	610	US 1438552
1873	46				14	94	6430	16525	NOME	21 06 929	C THORNTON	605	US 1438551
1873	46				14	95	6433	16302	GOLOVIN	17 06 938	J P ANDERSON	3422B	TSC 255881
1873	46				14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	12	ALA 2049
1873	46				14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	12	ALA 25454
1873	46				14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	21	ALA 2039
1873	46				14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	21	ALA 25456
1873	46				14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	20	ALA 2079
1873	46				14	96	6402	16055	EGAVIK	11 08 931	C H ROUSE	20	ALA 25440
1873	46				14	100	6454	14751	GOLDSTREAM CR	24 06 956	G W ARGUS	440	ALA 22445
1873	46				14	100	6454	14751	GOLDSTREAM CR	24 06 956	G W ARGUS	440	ALA 4738
1873	46				14	100	6452	14747	COLLEGE	05 07 957	G W ARGUS	1094	ALA 06800
1873	46				14	100	6454	14751	GOLDSTREAM CR	24 06 956	G W ARGUS	440	GWA
1873	46				14	100	6452	14747	COLLEGE	05 07 957	G W ARGUS	1094	GWA
1873	46				14	100	6452	14747	COLLEGE	07 07 966	G W ARGUS	5105	GWA
1873	46				14	100	6452	14747	COLLEGE	07 07 966	G W ARGUS	5104	GWA
1873	46				14	100	6448	14755	CHENA RIVER	21 06 955	S G SMITH	8	ALA 10747
1873	46				14	100	6452	14747	COLLEGE	06 06 967	L A VIERECK	8201	GWA
1873	46				14	101	6425	14520	BIG DELTA	03 07 961	R HERRICK		ALA 18535
1873	46				14	104	6527	14526	EAGLE CR CAMP	12 06 966	J N TRENT	966	ALA 32691
1873	46				14	110	6536	16313	IMURUK L	16 07 947	J G SIEH	50	TSC 255897
1873	46				14	111	6516	16622	TELLER	06 08 949	E SCAMMAN	5460	GH
1873	46				14	111	6515	16630	PORT CLARENCE	02 08 901	F WALPOLE	1674	US 378786
1873	46				14	113	6655	16231	KOTZEBUE	11 08 966	G W ARGUS	5979	GWA
1873	46				14	113	6655	16231	KOTZEBUE	17 08 951	E SCAMMAN	6462	GH
1873	46				14	113	6655	16240	KOTZEBUE	09 07 966	S L WELSH	5733	GWA
1873	46				14	128	6708	16345	CA KRUSENSTERN	12 07 960	H T SHACKLETTE	6499	US 2388069

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	46				14	128	6708	16345	CA KRUSENSTERN	12 07 960	H T SHACKLETTE	6503	MICH
1873	46				14	129	6810	16540	OGOTORUK CR	31 07 959	A W JOHNSON	585	GWA
1873	46				14	129	6810	16540	OGOTORUK CR	23 07 959	A W JOHNSON	451	GWA
1873	46				14	129	6810	16540	OGOTORUK CR	12 08 959	A W JOHNSON	648	GWA
1873	46				14	129	6810	16540	OGOTORUK CR	22 06 959	A W JOHNSON	98	GWA
1873	46				14	129	6810	16540	OGOTORUK CR	30 06 959	A W JOHNSON	236	GWA
1873	46				14	129	6810	16540	OGOTORUK CR	22 07 959	A W JOHNSON	445	GWA
1873	46				14	129	6810	16540	OGOTORUK CR	31 07 959	A W JOHNSON	587	GWA
1873	46				14	129	6810	16540	OGOTORUK CR	24 06 959	A W JOHNSON	153	GWA
1873	46				14	129	6810	16540	OGOTORUK CR	31 07 959	A W JOHNSON	585	ALA 9176
1873	46				14	129	6810	16540	OGOTORUK CR	23 07 959	A W JOHNSON	451	ALA 9172
1873	46				14	129	6810	16540	OGOTORUK CR	12 08 959	A W JOHNSON	648	ALA 9169
1873	46				14	129	6810	16540	OGOTORUK CR	22 06 959	A W JOHNSON	98	ALA 9196
1873	46				14	129	6810	16540	OGOTORUK CR	30 06 959	A W JOHNSON	236	ALA 9200
1873	46				14	129	6810	16540	OGOTORUK CR	24 06 959	A W JOHNSON	153	ALA 9195
1873	46				14	129	6810	16540	OGOTORUK CR	24 06 959	A W JOHNSON	153	ALA 16269
1873	46				14	129	6810	16540	OGOTORUK CR	22 07 959	A W JOHNSON	445	ALA 9202
1873	46				14	129	6810	16540	OGOTORUK CR	31 07 959	A W JOHNSON	587	ALA 9170
1873	46				14	129	6810	16540	OGOTORUK CR	16 08 960	L A VIERECK	4596	ALA 13239
1873	46				14	130	6852	16430	PITMEGEA R	27 06 957	J F CANTLON	57303	GH
1873	46				14	131	6847	16000	LAKE NOLUK	26 07 950	L A SPETZMAN	4278	NA 319188
1873	46				14	131	6847	16000	NOLUCK LAKE	26 07 950	L A SPETZMAN	4278	NA 319188
1873	46				14	133	6822	15439	KURUPA LAKE	14 07 952	A HODGDON	8417	GH
1873	46				14	136	6804	14503	OLD JOHN LAKE	08 08 957	S G SHETLER	1107	GWA
1873	46				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5885	GWA
1873	46				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5922	GWA
1873	46				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5884	GWA
1873	46				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5923	GWA
1873	46				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5881	GWA
1873	46				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5883	GWA
1873	46				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5888	GWA
1873	46				14	139	6935	14445	SADLEROCHIT R	17 08 948	L A SPETZMAN	1175	US 2032295
1873	46				14	141	6930	15200	UMIAT	10 08 949	L A SPETZMAN	2635	US 2032772
1873	46				14	141	6923	15210	UMIAT	28 07 966	Y SUDA	26866	GWA
1873	46				14	141	6923	15210	UMIAT	28 07 966	Y SUDA		GWA
1873	46				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5430	GWA
1873	46				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5431	GWA
1873	46				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5432	GWA
1873	46				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5427	GWA
1873	46				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5428	GWA
1873	46				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5429	GWA
1873	46				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5394	GWA
1873	46				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5395	GWA
1873	46				14	146	7038	16002	WAINWRIGHT	04 08 938	J P ANDERSON	4356	ISC 255889
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5298	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5293	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5295	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5286	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5289	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5296	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5288	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5292	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5291	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5294	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5287	GWA
1873	46				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5290	GWA
1873	46				14	147	7048	15815	PEARL BAY	05 08 947	R F BLACK	57F	ISC 255890
1873	46				14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5867	GWA
1873	46				14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5866	GWA
1873	46				14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5871	GWA
1873	46				14	153	7123	15628	POINT BARROW	22 06 88	MURDOCK	29	US
1873	46				14	153	7119	15643	BARROW	31 07 950	J THOMAS	2134	US 2312570
1873	46				14	153	7119	15643	BARROW	31 07 950	J THOMAS	2134	GH

49 1 GLAUCA VAR. GLAUCA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	49	0	1		7	133	6931	13348	RICHARDS IS	10 07 957	W J CODY	9988	DAO 32690
1873	49	0	1		7	375	6103	11004	THEKULTHILI L	11 08 962	G W SCOTTER	3049	CAN 275156
1873	49	0	1		14	11	5822	13600	GLACIER BAY	29 08 921	W S COOPER		MIN
1873	49	0	1		14	11	5822	13600	GLACIER BAY	14 07 929	W S COOPER	S.N.	MIN
1873	49	0	1		14	11	5822	13600	GLACIER BAY	10 07 929	W S COOPER		MIN
1873	49	0	1		14	28	5520	16030	POPOF ISLAND	19 07 941	L J COLE	S.N.	ISC 256583
1873	49	0	1		14	34	5746	15312	TERROR BAY	16 08 950	W K CLARK		ISC 256402
1873	49	0	1		14	36	5747	15608	ISLAND LAKE	11 08 949	K A RAUP	207	ISC 219355
1873	49	0	1		14	36	5732	15725	UGASHIK	25 07 967	D STREUBEL	S.N.	ALA 34730
1873	49		1		14	39	5834	16146	CAPE PEIRCE	13 6 970	L DICK	109	GWA
1873	49		1		14	39	5834	16146	CAPE PEIRCE	28 7 970	L DICK	362	GWA
1873	49	0	1		14	41	5852	15703	KVICHAK RIVER	08 936	G M JONES	9257	ISC 146447
1873	49	0	1		14	43	5804	15304	PORT VITA	25 07 945	W J EYERDAM	S.N.	ISC 256404
1873	49	0	1		14	43	5804	15304	PORT VITA	12 07 946	W J EYERDAM	S.N.	ISC 256403
1873	49	0	1		14	52	5921	15737	BECHAROF LAKE	09 08 949	K A RAUP	160	ISC 219354
1873	49	0	1		14	67	6141	14148	RUSSELL GL	24 07 967	R W SCOTT	1823	GWA
1873	49	0	1		14	67	6139	14218	SKOLAI VALLEY	11 07 967	R W SCOTT	1714	GWA
1873	49	0	1		14	67	6140	14220	SKOLAI RIVER	20 06 967	R W SCOTT	1610	GWA
1873	49	0	1		14	69	6155	14715	TAHNETA PASS	30 06 967	V L HARMS	6092	ALA 34634
1873	49	0	1		14	69	6140	14900	MATANUSKA VY	940	L J PALMER	418	ALA 5219
1873	49		1		14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4144	CAN
1873	49		1		14	73	6135	15915	RUSSIAN MISS.	2 7 949	W H DRURY	1739	CAN
1873	49		1		14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1493	CAN
1873	49		1		14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1492	CAN

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB	+ NO
1873	49		1		14	73	6134	15934	ANIAK	18 6 949	W H DRURY	1509	CAN	
1873	49		1		14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1508	CAN	
1873	49	0	1		14	91	6352	16047	UNALAKLEET	11 08 925	L J PALMER	1247	ALA	2031
1873	49	0	1		14	92	6302	16318	PASTOLIK	19 07 931	C H ROUSE	30	GWA	
1873	49	0	1		14	92	6302	16318	PASTOLIK	19 07 931	C H ROUSE	30	ALA	2040
1873	49	0	1		14	92	6302	16318	PASTOLIK	19 07 931	C H ROUSE	27	ALA	29318
1873	49	0	1		14	94	6430	16530	NOME	24 08 938	J P ANDERSON	5002	TSC	256535
1873	49	0	1		14	94	6430	16530	NOME	23 06 929	W R MILLER	112C	GWA	
1873	49	0	1		14	94	6434	16533	NOME	02 07 968	R PEGAU	19868	GWA	
1873	49	0	1		14	94	6435	16538	NOME	21 08 966	R PEGAU	W10	GWA	
1873	49	0	1		14	94	6435	16538	NOME	16 06 966	R PEGAU	W4	GWA	
1873	49	0	1		14	94	6435	16520	DEXTER CREEK	07 08 965	R PEGAU	W19	GWA	
1873	49	0	1		14	94	6435	16538	NOME	21 08 966	R PEGAU	W10	ALA	32704
1873	49	0	1		14	95	6433	16302	GOLOVIN	17 06 938	J P ANDERSON	3424	TSC	256586
1873	49	0	1		14	96	6402	16055	EGAVIK	21 08 929	W R MILLER	245C	ALA	2021
1873	49	0	1		14	111	6516	16622	TELLER	24 08 938	J P ANDERSON	3576	TSC	256413
1873	49	0	1		14	111	6511	16533	DUCK CREEK	18 07 968	R PEGAU	27368	GWA	
1873	49	0	1		14	113	6655	16231	KOTZEBUE	11 08 966	G W ARGUS	5975	GWA	
1873	49	0	1		14	113	6655	16231	KOTZEBUE	11 08 966	G W ARGUS	5974	GWA	
1873	49	0	1		14	113	6655	16231	KOTZEBUE	11 08 966	G W ARGUS	5978	GWA	
1873	49	0	1		14	113	6655	16240	KOTZEBUE	09 07 966	S L WELSH	5757	GWA	
1873	49	0	1		14	113	6655	16240	KOTZEBUE	09 07 966	S L WELSH	5734	GWA	
1873	49	0	1		14	114	6617	16153	CHORIS PEN	15 09 931	C H ROUSE	10	ALA	25439
1873	49	0	1		14	114	6617	16153	CHORIS PEN	15 09 931	C H ROUSE	10	ALA	2050
1873	49	0	1		14	120	6709	14140	PORCUPINE R	12 08 961	F C DEAN	21	ALA	
1873	49	0	1		14	126	6706	15815	ONION PORTAGE	26 07 967	C SCHWEGER	154	ALA	34719
1873	49	0	1		14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	8	ALA	26587
1873	49	0	1		14	129	6853	16613	CAPE LISBURNE	07 08 938	J P ANDERSON	4498	TSC	256555
1873	49	0	1		14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5959	GWA	
1873	49	0	1		14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5950	GWA	
1873	49	0	1		14	129	6815	16600	CAPE THOMPSON	10 07 960	L H BELSON	878	ALA	28687
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	20 06 959	A W JOHNSON	41	GWA	
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	25 06 959	A W JOHNSON	168	GWA	
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	25 06 959	A W JOHNSON	170	GWA	
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	05 08 959	A W JOHNSON	610	GWA	
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	05 07 959	A W JOHNSON	303	GWA	
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	11 08 959	A W JOHNSON	643	GWA	
1873	49	0	1		14	129	6806	16545	OGOTORUK CREEK	05 07 959	A W JOHNSON	303	GWA	
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	11 08 959	A W JOHNSON	644	ALA	16270
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	20 06 959	A W JOHNSON	41	ALA	9197
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	05 07 959	A W JOHNSON	303	ALA	9194
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	25 06 959	A W JOHNSON	168	ALA	9190
1673	49	0	1		14	129	6808	16540	OGOTORUK CREEK	25 06 959	A W JOHNSON	170	ALA	9189
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	11 08 959	A W JOHNSON	645	ALA	16271
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	05 08 959	A W JOHNSON	610	ALA	9192
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	20 06 959	A W JOHNSON	41	ALA	26694
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	05 08 959	A W JOHNSON	610	ALA	26715
1873	49	0	1		14	129	6808	16540	OGOTORUK CREEK	13 06 961	K JONES	5	ALA	25076
1873	49	0	1		14	129	6816	16535	KUKPUK RIVER	04 08 963	H R MELCHIOR	549	GWA	
1873	49	0	1		14	129	6816	16535	KUKPUK RIVER	04 08 963	H R MELCHIOR	550	GWA	
1873	49	0	1		14	129	6816	16535	KUKPUK RIVER	04 08 963	H R MELCHIOR	548	GWA	
1873	49	0	1		14	129	6816	16535	KUKPUK RIVER	16 07 963	H R MELCHIOR	544	GWA	
1873	49	0	1		14	129	6817	16532	ANGMAKROG MT	25 07 960	H R MELCHIOR	168	ALA	17811
1873	49	0	1		14	129	6845	16600	UKINYAK CREEK	30 07 960	L A VIERECK	4406	ALA	13230
1873	49	0	1		14	129	6845	16600	UKINYAK CREEK	03 08 960	L A VIERECK	4499	ALA	13228
1873	49	0	1		14	129	6815	16528	KUKPUK RIVER	22 08 960	L A VIERECK		ALA	13237
1873	49	0	1		14	129	6842	16615	CAPE DYER	22 07 960	L A VIERECK	4256	ALA	13229
1873	49	0	1		14	136	6810	14530	ARCTIC VILLAGE	24 06 965	V L HARMS	3795	ALA	32567
1873	49	0	1		14	137	6822	14355	SHEENJEK R	23 06 956	B KESSEL	S668	ALA	5053
1873	49	0	1		14	137	6840	14345	SHEENJEK R	11 07 9 6	B KESSEL	S169D	ALA	3678
1873	49	0	1		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	27166	GWA	
1873	49	0	1		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	27455	GWA	
1873	49	0	1		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	27766	GWA	
1873	49	0	1		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	27266	GWA	
1873	49	0	1		14	142	6952	15350	IKPIKPUK	04 09 947	R F BLACK	S.N.	TSC	256553
1873	49	0	1		14	142	6952	15350	IKPIKPUK	04 09 947	R F BLACK	S.N.	TSC	256551
1873	49	0	1		14	142	6948	15350	IKPIKPUK	30 08 947	R F BLACK		TSC	256563
1873	49	0	1		14	142	6942	15450	IKPIKPUK R	10 07 959	O W GEIST	A	ALA	29310
1873	49	0	1		14	143	6953	15708	MEADE RIVER	22 07 960	O W GEIST	S.N.	ALA	27726
1873	49	0	1		14	143	6956	15957	KAOLAK R	09 07 958	S SHUSHAN		WIS	
1873	49	0	1		14	145	6946	16303	POINT LAY	06 08 938	J P ANDERSON	4469	TSC	256554
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5554	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5435	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5520	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5537	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5492	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5474	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5476	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5555	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5664	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	28 07 966	G W ARGUS	5693	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5662	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5575	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5661	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	28 07 966	G W ARGUS	5698	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5436	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5437	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5559	GWA	
1873	49	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5438	GWA	
1873	49	0	1		14	145	6912	16201	KOKOLIK R	30 08 947	R F BLACK	S.N.	TSC	256689
1873	49	0	1		14	145	6912	16201	KOKOLIK R	30 08 947	R F BLACK	S.N.	TSC	256590

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB	+ NO
1873	49	0	1		14	146	7008	15945	AVALIK R	17 08 959	O W GEIST	S.N.	ALA	28138
1873	49	0	1		14	146	7008	15945	AVALIK R	17 08 959	O W GEIST	S.N.	ALA	27995
1873	49	0	1		14	147	7030	15730	MEADE RIVER	17 07 966	G W ARGUS	5313	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5191	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	17 07 966	G W ARGUS	5310	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	15 07 966	G W ARGUS	5268	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	17 07 966	G W ARGUS	5314	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5197	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5201	GWA	
1873	49		1		14	147	7030	15730	MEADE R.P.O.	15 7 966	G W ARGUS	5276A	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	17 07 966	G W ARGUS	5311	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5204	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5207	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5203	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	15 07 966	G W ARGUS	5236	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5193	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5194	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5198	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5205	GWA	
1873	49	0	1		14	147	7031	15722	USUKTUK RIVER	07 07 960	O W GEIST	S.N.	GWA	
1873	49	0	1		14	147	7028	15724	MEADE RIVER	08 08 960	O W GEIST	S.N.	ALA	28950
1873	49	0	1		14	147	7031	15724	MEADE RIVER	17 08 960	O W GEIST	12	ALA	27955
1873	49	0	1		14	147	7031	15724	MEADE RIVER	17 08 960	O W GEIST	5	ALA	27849
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	Y SUDA	20266	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	17 07 966	Y SUDA	21566	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	17 07 966	Y SUDA	22066	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	Y SUDA	19566	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	17 07 966	Y SUDA	21666	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	15 07 966	Y SUDA	21066	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	Y SUDA	20166	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	Y SUDA	19966	GWA	
1873	49	0	1		14	147	7030	15730	MEADE RIVER	14 07 966	Y SUDA	19866	GWA	

49 2 GLAUCA VAR. ACUTIFOLIA

1873	49		2		2	1	5949	13638	HAINES RD M82	04 08 967	L A VIERECK	8552	GWA	
1873	49		2		2	1	5935	13627	THREEGUARDSMAN	04 08 967	L A VIERECK	8531	GWA	
1873	49		2		2	2	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6727	GWA	
1873	49		2		2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6810	GWA	
1873	49		2		7	152	6820	13330	INUVIK	29 6 970	S L WELSH	10014	OTF	1206
1873	49		2		7	338	6300	12902	O GRADY LAKE	25 07 967	W J CODY	16477	DAO	32665
1873	49		2		7	345	6225	11418	YELLOWKNIFE	23 08 927	H M RAUP	503	GWA	
1873	49		2		7	368	6118	12405	S. NAHANNI R.	26 6 970	G W SCOTTER	12374	GWA	
1873	49		2		12	3	6924	14050	MT PAGE	5 7 970	S L WELSH	10271	OTF	1201
1873	49		2		12	4	6812	13845	CROW FLATS	24 6 970	J K RIGBY	55	OTF	1186
1873	49		2		12	4	6809	13949	SAM LAKE	15 7 970	S L WELSH	10664	OTF	1213
1873	49		2		12	4	6822	13910	SAM LAKE	11 7 970	S L WELSH	10510	OTF	1203
1873	49		2		12	4	6826	13840	BARN MTS	30 6 970	S L WELSH	10038	OTF	1202
1873	49		2		12	4	6840	13907	BABBAGE RIVER	3 7 970	S L WELSH	10196A	OTF	1187
1873	49		2		12	4	6906	13807	KING POINT	15 7 970	S L WELSH	10694	OTF	1214
1873	49	0	2		12	5	6725	14100	RAMPART HOUSE	17 08 954	J L BUCKLEY	S.N.	GWA	
1873	49	0	2		12	5	6725	14100	RAMPART HOUSE	17 08 954	J L BUCKLEY	S.N.	ALA	5023
1873	49	0	2		12	5	6725	14100	RAMPART HOUSE	11 06 951	C C LOAN	427	GWA	
1873	49	0	2		12	15	6404	13925	DAWSON	932	BEAUCHAMP		ALA	523
1873	49	0	2		12	15	6408	13951	SIXTYML RD M12	26 06 966	S L WELSH	5584	GWA	
1873	49	0	2		12	21	6350	13731	BARLOW	05 06 960	J A CALDER	25058A	GWA	
1873	49	0	2		12	21	6352	13857	KING SOL DOME	03 07 949	J A CALDER	3465	TSC	256565
1873	49	0	2		12	21	6325	13640	STEWART RIVER	29 07 949	J M GILLETT	4195	TSC	256564
1873	49	0	2		12	22	6335	13554	MAYO	06 08 944	J P ANDERSON	9716	TSC	256592
1873	49	0	2		12	27	6205	13618	CARMACKS	21 08 941	L J COLE	S.N.	TSC	256582
1873	49	0	2		12	32	6159	14033	WHITE RIVER	21 07 944	J P ANDERSON	9313	TSC	256576
1873	49	0	2		12	32	6159	14033	WHITE RIVER	21 07 944	J P ANDERSON	9312	TSC	256577
1873	49	0	2		12	32	6120	13910	DUKE RIVER	21 08 966	G W ARGUS	6006	GWA	
1873	49	0	2		12	32	6120	13910	DUKE RIVER	21 08 966	G W ARGUS	6009	GWA	
1873	49	0	2		12	32	6120	13910	DUKE RIVER	21 08 966	G W ARGUS	6011	GWA	
1873	49	0	2		12	32	6102	13833	MT WALLACE	20 08 944	H M RAUP	12888	GWA	
1873	49	0	2		12	32	6144	13832	PTARMIGAN HRT	13 07 948	H M RAUP	13594	ALA	19476
1873	49	0	2		12	32	6146	13837	PTARMIGAN HRT	15 07 948	H M RAUP	13677	ALA	19475
1873	49	0	2		12	32	6133	13840	KLUANE L	20 08 944	H M RAUP	12888	ALA	19765
1873	49	0	2		12	32	6103	13831	KLUANE LAKE	12 07 944	H M RAUP	12431	ALA	19759
1873	49	0	2		12	32	6103	13831	KLUANE LAKE	02 07 944	H M RAUP	12185	ALA	20043
1873	49	0	2		12	32	6122	13859	BURWASH	02 07 948	H M RAUP	13319	ALA	19471
1873	49	0	2		12	32	6115	13844	DESTRUCTION B	07 08 948	H M RAUP	13991	ALA	19386
1873	49	0	2		12	32	6110	13845	KLUANE LAKE	30 06 966	Y SUDA	16866	GWA	
1873	49	0	2		12	32	6129	13916	ALA HWY M1110	28 07 966	S L WELSH	6055	GWA	
1873	49	0	2		12	34	6111	13512	LAKE LABERGE	932	BEAUCHAMP		ALA	519
1873	49	0	2		12	34	6111	13512	LAKE LABERGE	932	BEAUCHAMP	102	ALA	525
1873	49	0	2		12	34	6111	13512	LAKE LABERGE	932	BEAUCHAMP		ALA	520
1873	49	0	2		12	34	6111	13512	LAKE LABERGE	932	BEAUCHAMP	S.N.	ALA	518
1873	49	0	2		12	35	6155	13228	LOWER LAPIE R	15 06 944	A E PORSILD	9512	TSC	256678
1873	49	0	2		12	35	6155	13238	LOWER LAPIE R	15 06 944	A E PORSILD	9511	TSC	256679
1873	49	0	2		12	35	6154	13245	LAPIE R	27 06 944	A E PORSILD	10012	TSC	256680
1873	49	0	2		12	39	6059	13829	KLUANE LAKE	23 07 944	J P ANDERSON	9378	TSC	256571
1873	49	0	2		12	39	6059	13829	KLUANE LAKE	24 07 944	J P ANDERSON	9412	TSC	256570
1873	49	0	2		12	39	6057	13825	SLIMS RIVER	18 07 944	H M RAUP	12505	ALA	19899
1873	49	0	2		12	40	6045	13615	MENDENHALL R	30 06 966	G W ARGUS	5077	GWA	
1873	49	0	2		12	40	6047	13735	PINE CREEK	10 06 948	H M RAUP	13067	ALA	19469
1873	49	0	2		12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11787	ALA	19473
1873	49	0	2		12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11783	ALA	19476
1873	49	0	2		12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11785	ALA	20026

Specimens Cited

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	49	0	2		12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11788	ALA 19775
1873	49	0	2		12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11786	ALA 19480
1873	49	0	2		12	40	6047	13735	PINE CREEK	23 06 944	H M RAUP	11877	ALA 19752
1873	49	0	2		12	40	6047	13741	BEAR CREEK	10 06 948	H M RAUP	13080	ALA 19470
1873	49	0	2		12	40	6045	13738	ALSEK RIVER	24 06 944	H M RAUP	11896	ALA 19771
1873	49	0	2		12	40	6045	13615	MENDENHALL R	30 06 966	Y SUDA	16566	GWA
1873	49	0	2		12	41	6043	13503	WHITEHORSE	31 07 944	J P ANDERSON	9606	ISC 256575
1873	49	0	2		12	41	6043	13503	WHITEHORSE	932	BEAUCHAMP		ALA 524
1873	49	0	2		12	41	6023	13449	MINTO	932	BEAUCHAMP		ALA 521
1873	49	0	2		12	41	6059	13510	DAWSON RD M13	01 06 960	J A CALDER	24874	GWA
1873	49	0	2		12	41	6034	13433	NW END MARSH L	02 06 960	J A CALDER	24923	GWA
1873	49	0	2		12	41	6043	13503	WHITEHORSE	10 08 943	H M RAUP	11138	ALA 19774
1873	49	0	2		12	41	6010	13442	CARCROSS	19 08 943	H M RAUP	11459	ALA 19767
1873	49	0	2		12	42	6025	13335	SQUANGA LAKE	29 06 966	G W ARGUS	5074	GWA
1873	49	0	2		12	42	6022	13351	LTL ATLIN L	13 08 943	H M RAUP	11275	ALA 19568
1873	49	0	2		12	42	6022	13351	LTL ATLIN L	19 08 943	H M RAUP	11428	ALA 19755
1873	49	0	2		12	42	6022	13351	LTL ATLIN L	19 08 943	H M RAUP	11470	ALA 19754
1873	49	0	2		12	42	6022	13351	LTL ATLIN L	29 08 943	H M RAUP	11456	ALA 19761
1873	49	0	2		12	42	6005	13228	ALA HWY M793	24 06 966	S L WELSH	5476	GWA
1873	49	0	2		12	44	6003	12840	WATSON LAKE	24 06 966	G W ARGUS	5020	GWA
1873	49	0	2		14	41	5842	15639	KING SALMON	23 07 965	V L HARMS	4459	ALA 32565
1873	49	0	2		14	41	5839	15637	NAKNEK	27 06 949	K A RAUP	20	ISC 219352
1873	49	0	2		14	41	5845	15637	NAKNEK	03 07 949	K A RAUP	73	ISC 219356
1873	49	0	2		14	41	5843	15700	NAKNEK	03 07 952	W B SCHOFIELD	1934	GWA
1873	49	0	2		14	41	5842	15639	KING SALMON	19 07 952	W G SCHOFIELD	2259	GWA
1873	49	0	2		14	43	5804	15304	PORT VITA	10 07 946	W J EYERDAM	S.N.	ISC 256591
1873	49	0	2		14	43	5804	15304	PORT VITA	09 939	W J EYERDAM	1945	ISC 256591
1873	49	0	2		14	52	5947	15648	MULCHATNA R VY	21 07 965	V L HARMS	4400	ALA 32561
1873	49	0	2		14	52	5947	15648	MULCHATNA R VY	21 07 965	V L HARMS	4401	ALA 32562
1873	49	0	2		14	65	6130	14300	KENNICOTT GL	06 08 957	L A VIERECK	2207	ALA 8412
1873	49	0	2		14	65	6130	14300	KENNICOTT GL	06 08 957	L A VIERECK	2207	GWA
1873	49	0	2		14	68	6145	14630	TAZLINA GL	19 07 957	L A VIERECK	2192	ALA 8411
1873	49	0	2		14	68	6146	14510	RICH HWY M87	01 08 967	L A VIERECK	8458	GWA
1873	49	0	2		14	68	6145	14630	TAZLINA GL	19 07 957	L A VIERECK	2192	GWA
1873	49	0	2		14	68	6151	14519	COPPER CENTER	01 08 967	L A VIERECK	8451	GWA
1873	49	0	2		14	68	6133	14525	RICH HWY M70	01 08 967	L A VIERECK	8465	GWA
1873	49	0	2		14	68	6146	14511	WILLOW MT	01 08 967	L A VIERECK	8461	GWA
1873	49	0	2		14	68	6159	14653	LTL NELCHINA R	09 07 968	S L WELSH	8103	GWA
1873	49	0	2		14	69	6157	14710	GLENN HWY M128	14 06 944	J P ANDERSON	8467	ISC 256599
1873	49	0	2		14	69	6113	14953	ANCHORAGE	14 06 947	DUTILLY	20009	ISC 256159
1873	49	0	2		14	69	6113	14953	ANCHORAGE	30 06 947	DUTILLY	20520	ISC 256556
1873	49	0	2		14	69	6113	14953	ANCHORAGE	11 07 948	E LEPAGE	23461	ISC 256589
1873	49	0	2		14	69	6157	14710	GLENN HWY M128	22 06 947	E SCAMMAN	4522	GWA
1873	49	0	2		14	69	6148	14737	GLENN HWY M109	10 06 967	L A VIERECK	8212	GWA
1873	49	0	2		14	69	6157	14710	GLENN HWY M128	28 06 965	S L WELSH	4461	ISC 246046
1873	49		2		14	71	6157	15436	BIG RIVER	19 7 950	W H DRURY	4323	CAN
1873	49		2		14	71	6158	15438	BIG RIVER	18 7 950	W H DRURY	4302	CAN
1873	49		2		14	71	6155	15430	HEAD OF BIG R.	12 7 950	W H DRURY	4245	CAN
1873	49		2		14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4220	CAN
1873	49		2		14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4219	CAN
1873	49		2		14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4194	CAN
1873	49		2		14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4193	CAN
1873	49		2		14	71	6155	15425	HEAD OF BIG R.	9 7 950	W H DRURY	4020	CAN
1873	49		2		14	71	6155	15425	HEAD OF BIG R.	6 7 950	W H DRURY	3965	CAN
1873	49		2		14	71	6153	15421	HEAD OF BIG R.	12 7 950	W H DRURY	4246	CAN
1873	49		2		14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1822A	CAN
1873	49		2		14	73	6134	15934	ANIAK	17 6 949	W H DRURY	1408	CAN
1873	49	0	2		14	77	6259	16318	PASTOLIK	19 07 931	C H ROUSE	27	GWA
1873	49		2		14	80	6225	15350	FAREWELL	12 8 949	W H DRURY	2983	CAN
1873	49		2		14	80	6232	15337	FAREWELL L.	6 8 949	W H DRURY	2495	CAN
1873	49		2		14	80	6233	15336	FAREWELL L.	3 8 949	W H DRURY	2394	CAN
1873	49		2		14	80	6233	15337	FAREWELL L.	2 8 949	W H DRURY	2276	CAN
1873	49		2		14	80	6230	15340	FAREWELL MT.	8 8 949	W H DRURY	3043	CAN
1873	49		2		14	80	6228	15350	FAREWELL	13 8 949	W H DRURY	3028	CAN
1873	49		2		14	80	6231	15353	FAREWELL	14 8 949	W H DRURY	2955	CAN
1873	49		2		14	80	6235	15338	FAREWELL L.	2 8 949	W H DRURY	2275	CAN
1873	49		2		14	80	6233	15336	FAREWELL L.	6 8 949	W H DRURY	2525	CAN
1873	49		2		14	80	6258	15520	KUSKOKWIM R.	2 9 949	W H DRURY	3291	CAN
1873	49		2		14	80	6258	15520	KUSKOKWIM R.	2 9 949	W H DRURY	3289	CAN
1873	49	0	2		14	83	6203	14631	GLENN HWY M152	12 07 946	J P ANDERSON	10176	ISC 256579
1873	49	0	2		14	83	6231	14528	RICH HWY M146	09 07 935	J P ANDERSON	2060	ISC 256596
1873	49	0	2		14	83	6218	14518	GAKONA	18 06 944	J P ANDERSON	8502	ISC 256568
1873	49	0	2		14	83	6218	14518	GAKONA	18 06 944	J P ANDERSON	8503	ISC 256569
1873	49	0	2		14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1041	GWA
1873	49	0	2		14	83	6216	14523	GULKANA	932	BEAUCHAMP	13	ALA 522
1873	49	0	2		14	83	6330	14530	RAINBOW MT	17 07 965	V L HARMS	4156A	ALA 32609
1873	49	0	2		14	83	6233	14528	SOURDOUGH CR	16 07 968	S L WELSH	8263	GWA
1873	49	0	2		14	84	6252	14128	ALA HWY M1247	15 07 944	J P ANDERSON	9107	ISC 256578
1873	49	0	2		14	84	6252	14128	ALA HWY M1247	17 07 944	J P ANDERSON	9182	ISC 256593
1873	49	0	2		14	84	6252	14128	ALA HWY M1247	17 07 944	J P ANDERSON	9182	ISC 256683
1873	49	0	2		14	84	6255	14332	BARTELL CREEK	25 06 944	J P ANDERSON	9750	ISC 256594
1873	49	0	2		14	84	6230	14330	NABESNA RD M29	21 07 962	M SHARROCK		ALA 25404
1873	49	0	2		14	84	6253	14333	DEADMAN L CAMP	07 07 968	S L WELSH	7972	GWA
1873	49	0	2		14	85	6223	14321	TANACROSS	27 06 944	J P ANDERSON	8793	ISC 256573
1873	49	0	2		14	85	6223	14321	TANACROSS	27 06 944	J P ANDERSON	8790	ISC 256572
1873	49	0	2		14	85	6341	14215	MT FAIRPLAY	22 07 948	J P ANDERSON	10806	ISC 256685
1873	49	0	2		14	85	6320	14236	TETLIN JCT	02 07 963	M BARTHOLOMEW	4463	ALA 25903
1873	49	0	2		14	85	6321	14233	TAYLOR HWY M2	29 06 963	M BARTHOLOMEW	3863	ALA 25904
1873	49	0	2		14	85	6341	14215	MT FAIRPLAY	02 07 960	J A CALDER	26426	GWA
1873	49	0	2		14	85	6341	14213	TAYLOR HWY M34	27 06 963	J NAVA	67	ALA 23943
1873	49	0	2		14	85	6322	14232	TAYLOR HWY M5	21 06 963	J NAVA	92	ALA 23941

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	49	0	2		14	85	6332	14352	ALA HWY M1349	08 08 944	H M RAUP	12743	ALA 19756
1873	49	0	2		14	85	6341	14215	MT FAIRPLAY	08 951	E SCAMMAN	6254	GWA
1873	49	0	2		14	86	6313	14542	RICH HWY M202	10 07 935	J P ANDERSON	2129	ISC 256597
1873	49	0	2		14	86	6318	14542	RICH HWY M207	13 07 946	J P ANDERSON	10190	ISC 256580
1873	49	0	2		14	86	6357	14547	RICH HWY M249	26 07 948	J P ANDERSON	10860	ISC 256686
1873	49	0	2		14	86	6311	14533	ISABELLA PASS	27 07 935	J P ANDERSON	2702	ISC 256584
1873	49	0	2		14	86	6310	14530	PHELAN CREEK	20 07 957	G W ARGUS	1148	GWA
1873	49	0	2		14	86	6310	14530	PHELAN CREEK	20 07 957	G W ARGUS	1149	GWA
1873	49	0	2		14	86	6310	14530	PHELAN CREEK	20 07 957	G W ARGUS	1147	GWA
1873	49	0	2		14	86	6310	14530	PHELAN CREEK	20 07 957	G W ARGUS	1145	GWA
1873	49	0	2		14	86	6315	14530	PHELAN CREEK	19 07 957	G W ARGUS	1144	GWA
1873	49	0	2		14	86	6315	14540	MCCALLUM CREEK	19 06 957	G W ARGUS	1032	GWA
1873	49	0	2		14	86	6340	14551	DONNELLY DOME	04 07 951	W J CODY	5739	GWA
1873	49	0	2		14	86	6340	14645	MT HAYES	21 07 933	L J PALMER	456	ALA 32150
1873	49	0	2		14	86	6340	14645	MT HAYES	10 07 941	L J PALMER	630	ALA 5190
1873	49	0	2		14	86	6340	14645	MT HAYES	06 941	L J PALMER	456	ALA 5635
1873	49	0	2		14	86	6340	14645	MT HAYES	06 941	L J PALMER	459	ALA 5625
1873	49	0	2		14	86	6340	14645	MT HAYES	06 941	L J PALMER	458	ALA 5626
1873	49	0	2		14	86	6340	14645	MT HAYES	10 07 941	L J PALMER	643	ALA 5193
1873	49	0	2		14	86	6345	14433	ALA HWY M1380	04 08 944	H M RAUP	12658	ALA 19757
1873	49	0	2		14	86	6345	14433	ALA HWY M1380	10 08 944	H M RAUP	12760	ALA 19764
1873	49	0	2		14	86	6310	14541	FIELDING LAKE	05 08 961	R SPOONER	P83	ALA 19074
1873	49	0	2		14	86	6448	14545	DONNELLY DOME	25 07 967	L A VIERECK	8332	GWA
1873	49	0	2		14	86	6346	14545	DONNELLY DOME	25 07 967	L A VIERECK	8324	GWA
1873	49	0	2		14	86	6334	14551	RICH HWY M230	10 06 967	L A VIERECK	8204	GWA
1873	49	0	2		14	86	6325	14545	DELTA RIVER	26 06 966	L A VIERECK	8017	GWA
1873	49	0	2		14	86	6325	14545	BLACK RAPIDS G	16 07 957	L A VIERECK	2133	GWA
1873	49	0	2		14	86	6355	14548	BIG DELTA	24 06 965	S L WELSH	4336	ISC 246879
1873	49	0	2		14	87	6351	14858	HEALY	22 07 939	J P ANDERSON	5710	ISC 27551
1873	49	0	2		14	87	6351	14858	HEALY	22 07 939	J P ANDERSON	5710	ISC 256414
1873	49	0	2		14	87	6351	14858	HEALY	23 07 939	J P ANDERSON	5762	ISC 256415
1873	49	0	2		14	87	6340	14930	TEKLANIKA R	21 07 956	G W ARGUS	613	GWA
1873	49	0	2		14	87	6340	14930	TEKLANIKA R	21 07 956	G W ARGUS	612	GWA
1873	49	0	2		14	87	6340	14930	TEKLANIKA R	21 07 956	G W ARGUS	615	GWA
1873	49	0	2		14	87	6340	14930	TEKLANIKA R	21 07 956	G W ARGUS	617	GWA
1873	49	0	2		14	87	6335	14935	IGLOO CREEK	28 07 956	G W ARGUS	691	GWA
1873	49	0	2		14	87	6325	14900	CANTWELL	19 07 956	G W ARGUS	598	GWA
1873	49	0	2		14	87	6340	14930	TEKLANIKA R	21 07 956	G W ARGUS	613	ALA 4562
1873	49	0	2		14	87	6340	14930	TEKLANIKA R	21 07 956	G W ARGUS	612	ALA 4760
1873	49	0	2		14	87	6340	14930	TEKLANIKA R	21 07 956	G W ARGUS	615	ALA 4566
1873	49	0	2		14	87	6335	14935	IGLOO CREEK	28 07 956	G W ARGUS	691	ALA 4907
1873	49	0	2		14	87	6325	14900	CANTWELL	19 07 956	G W ARGUS	598	ALA 4908
1873	49	0	2		14	87	6344	14855	MCKINLEY PARK	19 06 947	DUTILLY	20131	ISC 256557
1873	49	0	2		14	87	6335	14940	SABLE PASS	29 06 954	G M FROHNE	54252	ALA 21850
1873	49	0	2		14	87	6351	14858	HEALY	27 08 950	D HANSON	56	ISC 256567
1873	49	0	2		14	87	6335	14935	IGLOO CREEK	03 08 959	A MURIE	8	GWA
1873	49	0	2		14	87	6243	14912	MCK PK RD M7	19 07 950	A MURIE	13	GWA
1873	49	0	2		14	87	6244	14855	MCKINLEY PARK	25 07 960	A MURIE	11	GWA
1873	49	0	2		14	87	6335	14935	IGLOO CREEK	10 07 939	A NELSON	3764	ISC 256408
1873	49	0	2		14	87	6331	14956	POLYCHROME PS	14 07 939	A NELSON	3779	ALA 534
1873	49	0	2		14	87	6335	14935	IGLOO CREEK	10 07 939	A NELSON	3764	ALA 531
1873	49	0	2		14	87	6325	14900	CANTWELL	10 07 921	L J PALMER	1943	ALA 5198
1873	49	0	2		14	87	6244	14855	MCKINLEY PARK	940	L J PALMER	421	ALA 5632
1873	49	0	2		14	87	6352	14902	HEALY	29 06 967	L A VIERECK	8297	GWA
1873	49	0	2		14	88	6332	15058	KANTISHNA	25 07 956	G W ARGUS	649	GWA
1873	49	0	2		14	88	6332	15058	KANTISHNA	25 07 956	G W ARGUS	651	GWA
1873	49	0	2		14	88	6332	15058	KANTISHNA	25 07 956	G W ARGUS	650	GWA
1873	49	0	2		14	88	6330	15002	TOKLAT R	27 07 956	G W ARGUS	683	GWA
1873	49	0	2		14	88	6330	15002	TOKLAT R	27 07 956	G W ARGUS	687	GWA
1873	49	0	2		14	88	6328	15010	HIGHWAY PASS	21 07 956	G W ARGUS	628	GWA
1873	49	0	2		14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	642	GWA
1873	49	0	2		14	88	6332	15058	KANTISHNA	25 07 956	G W ARGUS	650	ALA 4739
1873	49	0	2		14	88	6332	15058	KANTISHNA	25 07 956	G W ARGUS	651	ALA 4962
1873	49	0	2		14	88	6330	15002	TOKLAT R	27 07 956	G W ARGUS	683	ALA 4578
1873	49	0	2		14	88	6330	15002	TOKLAT R	27 07 956	G W ARGUS	683	ALA 22465
1873	49	0	2		14	88	6328	15010	HIGHWAY PASS	21 07 956	G W ARGUS	628	ALA 4734
1873	49	0	2		14	88	6327	15052	MCKINLEY BAR	29 07 967	J FOOTE	8427	GWA
1873	49	0	2		14	88	6332	15058	KANTISHNA	16 07 939	A NELSON	3822	ISC 256412
1873	49	0	2		14	88	6232	15001	MCK PK RD M35	08 07 939	A NELSON	3688	ISC 256411
1873	49	0	2		14	88	6232	15001	MCK PK RD M35	08 07 939	A NELSON	3691	ISC 256410
1873	49	0	2		14	88	6330	15003	TOKLAT	10 08 939	A NELSON	4094	ISC 256409
1873	49	0	2		14	88	6332	15058	KANTISHNA	16 07 939	A NELSON	3822	ALA 527
1873	49	0	2		14	88	6232	15001	MCK PK RD M35	08 07 939	A NELSON	3688	ALA 526
1873	49	0	2		14	88	6232	15001	MCK PK RD M35	08 07 939	A NELSON	3691	ALA 528
1873	49	0	2		14	88	6330	15003	TOKLAT	10 08 939	A NELSON	4094	ALA 529
1873	49	0	2		14	88	6327	15050	WONDER LAKE	20 07 939	A NELSON	3876	ALA 530
1873	49	0	2		14	88	6324	15025	MULDROW GL	28 08 939	A NELSON	4272	ALA 515
1873	49	0	2		14	88	6327	15045	MCKINLEY RIVER	19 06 958	L A VIERECK	3029	GWA
1873	49	0	2		14	88	6325	15050	MCKINLEY RIVER	30 06 958	L A VIERECK	3119	GWA
1873	49	0	2		14	88	6327	15045	MCKINLEY RIVER	05 07 958	L A VIERECK	3157	GWA
1873	49	0	2		14	88	6324	15025	MULDROW GL	10 07 958	L A VIERECK	3193	GWA
1873	49	0	2		14	88	6324	15025	MULDROW GL	10 07 958	L A VIERECK	3179	GWA
1873	49	0	2		14	88	6324	15020	THOROFARE R	04 07 956	L A VIERECK	1095	GWA
1873	49	0	2		14	88	6327	15050	WONDER LAKE	04 08 956	L A VIERECK	1713	ALA 11605
1873	49	0	2		14	88	6326	15020	THOROFARE R	12 08 956	L A VIERECK	1775	ALA 11619
1873	49	0	2		14	88	6324	15020	THOROFARE R	04 07 956	L A VIERECK	1095	ALA 11617
1873	49	0	2		14	88	6324	15020	THOROFARE R	04 07 956	L A VIERECK	1098A	ALA 3501
1873	49	0	2		14	88	6330	15002	TOKLAT R	22 07 965	S L WELSH	4843	ISC 247169
1873	49	0	2		14	88	6330	15002	TOKLAT R	22 07 965	S L WELSH	4861	ISC 247201
1873	49		2		14	89	6301	15532	APPEL MT.	23 8 950	W H DRURY	4669	CAN
1873	49	0	2		14	91	6352	16047	UNALAKLEET	12 06 938	J P ANDERSON	3266	ISC 256581

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	49	0	2		14	91	6352	16047	UNALAKLEET	29 08 938	J P ANDERSON	5081	ISC 256559
1873	49	0	2		14	91	6352	16047	UNALAKLEET R	10 08 925	J L PALMER	1211	ALA 2028
1873	49	0	2		14	92	6329	16202	ST MICHAEL	19 06 938	J P ANDERSON	3449	ISC 256530
1873	49	0	2		14	92	6331	16217	STEBBINS	02 07 938	J P ANDERSON	3733	ISC 256595
1873	49	0	2		14	92	6329	16202	ST MICHAEL	14 07 931	C H ROUSE	31	ALA 2042
1873	49	0	2		14	92	6329	16202	ST MICHAEL	14 07 931	C H ROUSE	31	ALA 25449
1873	49	0	2		14	92	6335	16230	STUART ISLAND	29 07 931	C H ROUSE	24	ALA 2039
1873	49	0	2		14	92	6335	16230	STUART ISLAND	20 07 931	C H ROUSE	49	ALA 25437
1873	49	0	2		14	92	6335	16230	STUART ISLAND	29 07 931	C H ROUSE	24	ALA 25441
1873	49	0	2		14	92	6335	16230	STUART ISLAND	29 07 931	C H ROUSE	49	ALA 2074
1873	49	0	2		14	92	6335	16230	STUART ISLAND	29 07 931	C H ROUSE	25	ALA 25463
1873	49	0	2		14	92	6335	16230	STUART ISLAND	29 07 931	C H ROUSE	25	ALA 2051
1873	49	0	2		14	92	6302	16318	PASTOLIK	19 07 931	C H ROUSE	30	ALA 25438
1873	49	0	2		14	94	6430	16530	NOME	16 06 954	C HELLER	1072	ALA 27068
1873	49	0	2		14	94	6430	16525	NOME	23 06 929	W S MILLER	112C	ALA 2729
1873	49	0	2		14	95	6458	16310	ETCHEPUK R	02 09 966	R PEGAU	W13	GWA
1873	49	0	2		14	95	6458	16310	ETCHEPUK R	02 09 966	R PEGAU	W13	ALA 32701
1873	49	0	2		14	97	6445	15657	GALENA	18 06 961	E L LITTLE, JR.	18505	GWA
1873	49	0	2		14	97	6420	15843	KALTAG	04 07 931	C H ROUSE	42	ALA 25450
1873	49	0	2		14	97	6420	15843	KALTAG	04 07 9 1	C H ROUSE	42	ALA 21488
1873	49	0	2		14	97	6420	15843	KALTAG	04 07 931	C H ROUSE	48	ALA 2019
1873	49	0	2		14	98	6445	15530	RUBY	03 07 931	C H ROUSE	48	GWA
1873	49	0	2		14	98	6445	15530	RUBY	03 07 931	C H ROUSE	52	GWA
1873	49	0	2		14	98	6445	15530	RUBY	03 07 931	C H ROUSE	46	GWA
1873	49	0	2		14	98	6445	15530	RUBY	03 07 931	C H ROUSE	48	ALA 25434
1873	49	0	2		14	98	6445	15530	RUBY	03 07 931	C H ROUSE	52	ALA 25451
1873	49	0	2		14	98	6445	15530	RUBY	03 07 931	C H ROUSE	32	ALA 2015
1873	49	0	2		14	98	6445	15530	RUBY	03 07 931	C H ROUSE	48	ALA 2018
1873	49	0	2		14	98	6445	15530	RUBY	03 07 931	C H ROUSE	46	ALA 2045
1873	49	0	2		14	100	6447	14757	CHENA BLUFFS	16 06 956	G W ARGUS	363	GWA
1873	49	0	2		14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1008	GWA
1873	49	0	2		14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1009	GWA
1873	49	0	2		14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1005	GWA
1873	49	0	2		14	100	6452	14750	COLLEGE	15 06 956	G W ARGUS	342	GWA
1873	49	0	2		14	100	6452	14750	COLLEGE	13 06 957	G W ARGUS	1019	GWA
1873	49	0	2		14	100	6452	14750	COLLEGE	14 07 957	G W ARGUS	1106	GWA
1873	49	0	2		14	100	6452	14750	COLLEGE	13 06 957	G W ARGUS	1020	GWA
1873	49	0	2		14	100	6452	14750	COLLEGE	07 07 966	G W ARGUS	5107	GWA
1873	49	0	2		14	100	6454	14750	COLLEGE	24 06 956	G W ARGUS	436	GWA
1873	49	0	2		14	100	6454	14751	GOLDSTREAM CR	11 08 957	G W ARGUS	1174	GWA
1873	49	0	2		14	100	6454	14751	GOLDSTREAM CR	11 08 957	G W ARGUS	1166	GWA
1873	49	0	2		14	100	6454	14751	GOLDSTREAM CR	11 08 957	G W ARGUS	1163	GWA
1873	49	0	2		14	100	6454	14751	GOLDSTREAM CR	11 08 957	G W ARGUS	1164	GWA
1873	49	0	2		14	100	6454	14751	GOLDSTREAM CR	11 08 957	G W ARGUS	1169	GWA
1873	49	0	2		14	100	6454	14751	GOLDSTREAM CR	11 08 957	G W ARGUS	1168	GWA
1873	49	0	2		14	100	6454	14751	GOLDSTREAM CR	11 08 957	G W ARGUS	1165	GWA
1873	49	0	2		14	100	6454	14751	GOLDSTREAM CR	11 08 957	G W ARGUS	1167	GWA
1873	49	0	2		14	100	6454	14751	GOLDSTREAM CR	11 08 957	G W ARGUS	1171	GWA
1873	49	0	2		14	100	6454	14750	GOLDSTREAM CR	05 07 966	G W ARGUS	5089	GWA
1873	49	0	2		14	100	6454	14750	GOLDSTREAM CR	05 07 966	G W ARGUS	5088	GWA
1873	49	0	2		14	100	6453	14752	SMITH LAKE	11 08 956	G W ARGUS	781	GWA
1873	49	0	2		14	100	6453	14752	SMITH LAKE	14 06 956	G W ARGUS	311	GWA
1873	49	0	2		14	100	6453	14752	SMITH LAKE	13 06 956	G W ARGUS	287	GWA
1873	49	0	2		14	100	6453	14752	SMITH LAKE	14 06 956	G W ARGUS	298	GWA
1873	49	0	2		14	100	6453	14752	SMITH LAKE	14 06 956	G W ARGUS	297	GWA
1873	49	0	2		14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1009	ALA 8408
1873	49	0	2		14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1005	ALA 16289
1873	49	0	2		14	100	6452	14750	COLLEGE	15 06 956	G W ARGUS	342	ALA 4511
1873	49	0	2		14	100	6452	14750	COLLEGE	13 06 957	G W ARGUS	1019	ALA 16290
1873	49	0	2		14	100	6454	14750	COLLEGE	24 06 956	G W ARGUS	436	ALA 4523
1873	49	0	2		14	100	6453	14752	SMITH LAKE	11 08 956	G W ARGUS	781	ALA 4699
1873	49	0	2		14	100	6453	14752	SMITH LAKE	13 06 956	G W ARGUS	287	ALA 4518
1873	49	0	2		14	100	6452	14750	COLLEGE	10 07 965	V L HARMS	3908	ALA 32660
1873	49	0	2		14	100	6451	14752	UNIV EXP FARM	20 08 961	J T OKEDARA	87	ALA 27172
1873	49	0	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	154	GWA
1873	49	0	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	193	ALA 5225
1873	49	0	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	160	ALA 5273
1873	49	0	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	185	ALA 5278
1873	49	0	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	186	ALA 5279
1873	49	0	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	180	ALA 5277
1873	49	0	2		14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	178	ALA 5276
1873	49	0	2		14	100	6443	14808	FAIRBANKS	08 09 966	L A VIERECK	8101	GWA
1873	49	0	2		14	100	6453	14750	COLLEGE	08 07 967	L A VIERECK	8299	GWA
1873	49	0	2		14	100	6452	14750	COLLEGE	10 06 959	L A VIERECK	4807	GWA
1873	49	0	2		14	102	6410	14147	FRANKLIN	10 07 941	J P ANDERSON	7142	ISC 256407
1873	49	0	2		14	102	6410	14147	FRANKLIN	15 07 941	J P ANDERSON	7300	ISC 256406
1873	49	0	2		14	102	6410	14147	FRANKLIN	10 07 941	J P ANDERSON	7142	ALA 533
1873	49	0	2		14	102	6410	14147	FRANKLIN	15 07 941	J P ANDERSON	7300	ALA 532
1873	49	0	2		14	102	6450	14340	CHARLIE RIVER	29 08 956	G W ARGUS	866	GWA
1873	49	0	2		14	102	6450	14340	CHARLIE RIVER	31 08 956	G W ARGUS	876	GWA
1873	49	0	2		14	102	6450	14340	CHARLIE RIVER	28 08 956	G W ARGUS	861	GWA
1873	49	0	2		14	102	6450	14340	CHARLIE RIVER	31 08 956	G W ARGUS	878	GWA
1873	49	0	2		14	102	6450	14340	CHARLIE RIVER	29 08 956	G W ARGUS	866	ALA 4897
1873	49	0	2		14	102	6450	14340	CHARLIE RIVER	28 08 956	G W ARGUS	861	ALA 4847
1873	49	0	2		14	102	6450	14340	CHARLIE RIVER	31 08 956	G W ARGUS	878	ALA 4898
1873	49	0	2		14	102	6405	14147	CHICKEN	29 07 964	V L HARMS	3070	ALA 32613
1873	49	0	2		14	104	6550	14404	CIRCLE	19 07 935	J P ANDERSON	2505	ISC 256585
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	13 06 945	E SCAMMAN	3493A	GWA
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	01 07 937	E SCAMMAN	733	GWA
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	12 07 9 0	E SCAMMAN	2042	GWA
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	12 07 940	E SCAMMAN	2043	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	12 07 940	E SCAMMAN	2042	GWA
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	13 06 945	E SCAMMAN	3493A	GWA
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	12 07 940	E SCAMMAN	2043	GWA
1873	49	0	2		14	104	6524	14554	TWELVEMILE CR	23 06 957	S G SHETLER	AF161	GWA
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	04 06 953	S G SMITH	1769B	GWA
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	04 06 953	S G SMITH	1769A	GWA
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	04 06 953	S G SMITH	1769A	ALA 10649
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	04 06 953	S G SMITH	1770B	ALA 10641
1873	49	0	2		14	104	6532	14513	MILLER HOUSE	04 06 953	S G SMITH	1769B	ALA 10650
1873	49	0	2		14	105	6505	14750	PEDRO DOME	14 07 956	G W ARGUS	569	GWA
1873	49	0	2		14	105	6520	14800	LIVENGOOD	24 08 957	G W ARGUS	1193	GWA
1873	49	0	2		14	105	6550	14750	LIVENGOOD	20 06 959	T P O:FARRELL	27	ALA 9631
1873	49	0	2		14	105	6532	14833	LIVENGOOD	19 06 940	E SCAMMAN	1717	GWA
1873	49	0	2		14	113	6654	16235	KOTZEBUE	12 08 938	J P ANDERSON	4706	ISC 256598
1873	49	0	2		14	113	6604	16242	DEERING	13 08 938	J P ANDERSON	4807	ISC 256588
1873	49	0	2		14	113	6654	16235	KOTZEBUE	08 951	E SCAMMAN	6458	GWA
1873	49	0	2		14	114	6658	16026	KIANA	25 06 937	O D CLARK		ALA 10188
1873	49	0	2		14	118	6630	14742	NELSON LAKE	933	O W GEIST	S.N.	ALA 29715
1873	49	0	2		14	119	6635	14510	FORT YUKON	23 06 965	V L HARMS	3821	ALA 32597
1873	49	0	2		14	119	6635	14510	FORT YUKON	23 06 965	V L HARMS	3820	ALA 32596
1873	49	0	2		14	120	6644	14334	FISH HOOK CR	03 07 957	S G SHETLER	314AF	ALA 3868
1873	49	0	2		14	120	6644	14334	FISH HOOK CR	08 07 957	S G SHETLER	445AF	ALA 3948
1873	49	0	2		14	120	6644	14334	FISH HOOK CR	05 07 957	S G SHETLER	357AF	ALA 3887
1873	49	0	2		14	120	6644	14334	FISH HOOK CR	05 07 957	S G SHETLER	353AF	ALA 3885
1873	49	0	2		14	121	6710	14155	PORCUPINE R	12 08 951	J L BUCKLEY	S.N.	GWA
1873	49	0	2		14	121	6710	14155	PORCUPINE R	25 07 967	J L BUCKLEY	189	GWA
1873	49	0	2		14	121	6717	14135	PORCUPINE R	19 07 957	J L BUCKLEY	114	GWA
1873	49	0	2		14	121	6710	14140	OLD RAMPART	21 07 957	J L BUCKLEY	182	GWA
1873	49	0	2		14	121	6710	14140	OLD RAMPART	21 07 957	J L BUCKLEY	179	GWA
1873	49	0	2		14	121	6710	14140	OLD RAMPART	22 07 957	J L BUCKLEY	153	GWA
1873	49	0	2		14	121	6710	14140	OLD RAMPART	16 08 954	J L BUCKLEY	S.N.	ALA 5625
1873	49	0	2		14	121	6710	14155	PORCUPINE R	12 08 951	J L BUCKLEY	S.N.	ALA 267575
1873	49	0	2		14	121	6710	14155	PORCUPINE R	12 08 951	J L BUCKLEY	S.N.	ALA 5039
1873	49	0	2		14	121	6717	14135	PORCUPINE R	16 08 954	J L BUCKLEY	S.N.	ALA 5026
1873	49	0	2		14	121	6715	14155	PORCUPINE R	25 07 957	J L BUCKLEY	190	ALA 5680
1873	49	0	2		14	121	6710	14155	PORCUPINE R	25 07 957	J L BUCKLEY	189	ALA 5037
1873	49	0	2		14	121	6717	14135	PORCUPINE R	19 07 957	J L BUCKLEY	114	ALA 5086
1873	49	0	2		14	121	6717	14135	PORCUPINE R	19 07 957	J L BUCKLEY	114	ALA 26769
1873	49	0	2		14	121	6710	14140	OLD RAMPART	22 07 957	J L BUCKLEY	153	ALA 5024
1873	49	0	2		14	121	6710	14140	OLD RAMPART	22 07 957	J L BUCKLEY	153	ALA 26760
1873	49	0	2		14	121	6710	14140	OLD RAMPART	21 07 957	J L BUCKLEY	179	ALA 5677
1873	49	0	2		14	121	6710	14140	OLD RAMPART	21 07 957	J L BUCKLEY	182	ALA 5085
1873	49	0	2		14	121	6710	14140	OLD RAMPART	21 07 957	J L BUCKLEY	177	ALA 5091
1873	49	0	2		14	121	6712	14138	PORCUPINE R	10 08 961	F C DEAN	S.N.	ALA 24078
1873	49	0	2		14	121	6708	14208	PORCUPINE R	16 08 961	F C DEAN	20	ALA 24059
1873	49	0	2		14	121	6716	14138	PORCUPINE R	10 08 961	F C DEAN	22	ALA 24064
1873	49	0	2		14	121	6717	14140	PORCUPINE R	12 08 961	F C DEAN	21	ALA 24060
1873	49	0	2		14	121	6723	14350	SMALL LAKE	24 07 957	S G SHETLER	662AF	ALA 4087
1873	49	0	2		14	121	6723	14350	SMALL LAKE	01 08 957	S G SHETLER	841AF	ALA 4193
1873	49	0	2		14	124	6725	15007	WISEMAN	31 07 939	J P ANDERSON	5819	ALA 27556
1873	49	0	2		14	124	6725	15007	WISEMAN	31 07 931	J P ANDERSON	5816	ALA 27502
1873	49	0	2		14	124	6725	15006	WISEMAN	31 07 939	J P ANDERSON	5816	ISC 256544
1873	49	0	2		14	124	6725	15006	WISEMAN	31 07 939	J P ANDERSON	5819	ISC 256558
1873	49	0	2		14	124	6725	15007	WISEMAN	13 06 962	R BROCKMAN	A	ALA 28512
1873	49	0	2		14	124	6725	15007	WISEMAN	08 07 962	R BROCKMAN		ALA 28437
1873	49	0	2		14	124	6725	15007	WISEMAN	14 06 962	R BROCKMAN	S.N.	ALA 28483
1873	49	0	2		14	124	6725	15007	WISEMAN	08 07 962	R BROCKMAN	S.N.	ALA 28466
1873	49	0	2		14	124	6725	15006	WISEMAN	02 08 937	E SCAMMAN	899	GWA
1873	49	0	2		14	124	6725	15006	WISEMAN	01 08 940	E SCAMMAN	2237	GWA
1873	49	0	2		14	124	6725	15006	WISEMAN	01 08 940	E SCAMMAN	2237B	GWA
1873	49	0	2		14	124	6725	15006	WISEMAN	01 08 940	E SCAMMAN	2235	GWA
1873	49	0	2		14	128	6759	16433	KIVELINA	10 08 938	J P ANDERSON	4623	ISC 256560
1873	49	0	2		14	136	6803	14500	OLD JOHN LAKE	12 08 957	S G SHETLER	AF161	GWA
1873	49	0	2		14	136	6803	14500	OLD JOHN LAKE	06 08 957	S G SHETLER	AF161	GWA
1873	49	0	2		14	136	6803	14500	OLD JOHN LAKE	12 08 957	S G SHETLER	1146AF	ALA 4363
1873	49	0	2		14	136	6803	14500	OLD JOHN LAKE	06 08 957	S G SHETLER	948AF	ALA 4249
1873	49	0	2		14	136	6803	14500	OLD JOHN LAKE	14 08 957	S G SHETLER	1150AF	ALA 4364
1873	49	0	2		14	136	6803	14500	OLD JOHN LAKE	07 08 954	S G SMITH	2554B	GWA
1873	49	0	2		14	136	6803	14500	OLD JOHN LAKE	06 08 954	S G SMITH	2554B	ALA 10737
1873	49	0	2		14	137	6839	14100	FIRTH RIVER	16 06 961	E L LITTLE, JR.	18478	GWA
1873	49	0	2		14	141	6923	15210	UMIAT	28 07 966	Y SUDA	26766	GWA
1873	49	0	2		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	27366	SASK
1873	49	0	2		14	141	6923	15210	UMIAT	28 07 966	Y SUDA	25866	SASK
1873	49	0	2		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	27666	SASK
1873	49	0	2		14	141	6922	15210	UMIAT	23 05 964	G WEST	7175	GWA
1873	49	0	2		14	141	6922	15210	UMIAT	11 08 964	G WEST	7508A	GWA
1873	49	0	2		14	141	6922	15210	UMIAT	23 05 964	G WEST	7180	GWA
1873	49	0	2		14	141	6922	15210	UMIAT	03 06 964	G WEST	7181	GWA
1873	49	0	2		14	141	6922	15210	UMIAT	12 08 964	G WEST	7504	GWA
1873	49	0	2		14	141	6922	15210	UMIAT	12 06 964	G WEST	7508	GWA

49 5 GLAUCA VAR. VILLOSA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	49		5		1	37	5213	11712	SUNWAPTA PASS.	13 08 968	G W ARGUS	6959	GWA
1873	49		5		2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6803	GWA
1873	49		5		2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6812	GWA
1873	49		5		2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6805	GWA
1873	49		5		2	2	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6740	GWA
1873	49		5		2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6809	GWA
1873	49		5		2	14	5822	12955	DEASE L VILLAG	13 8 969	K RIGBY	265	OTF 1142

```
TAXON SPC S V HYB PROV QUAD  LAT  LONG   LOCALITY         DATE     COLLECTOR NAME      COL NO HERB + NO

1873    49 0 5       2    16  5840 12425 N TETSA RIVER   22 06 966 G W ARGUS              4975  GWA
1873    49 0 5       2    16  5840 12425 N TETSA RIVER   22 06 966 G W ARGUS              4972  GWA
1873    49 0 5       2    16  5840 12425 N TETSA RIVER   22 06 966 G W ARGUS              4974  GWA
1873    49 0 5       2    16  5840 12425 N TETSA RIVER   22 06 966 G W ARGUS              4973  GWA
1873    49 0 5       2    16  5448 12500 MACDONALD CR    22 06 966 G W ARGUS              4978  GWA
1873    49 0 5       2    16  5448 12500 MACDONALD CR    22 06 966 G W ARGUS              4979  GWA
1873    49 0 5       2    16  5831 12434 SUMMIT PASS     19 07 943 H M RAUP              10671  ALA   19477
1873    49 0 5       2    16  5831 12434 SUMMIT PASS     11 07 943 H M RAUP              10473  ALA   19569
1873    49 0 5       2    16  5831 12434 SUMMIT PASS     19 07 943 H M RAUP              10672  ALA   19566
1873    49 0 5       2    16  5847 12500 MACDONALD CR    25 06 968 S L WELSH              7324  GWA
1873    49 0 5       2    16  5847 12500 MACDONALD CR    25 06 968 S L WELSH              7326  GWA
1873    49   5       2    21  5739 12844 STIKINE MT       6  8 969 K R IGBY                 265 OTF    1142
1873    49 0 5       2    24  5705 12235 BEATTON RIVER   23 06 943 H M RAUP              10259  ALA   19901
1873    49 0 5       2    24  5705 12235 BEATTON RIVER   23 06 943 H M RAUP              10257  ALA   19900
1873    49 0 5       2    24  5705 12235 BEATTON RIVER   10 06 943 H M RAUP              10028  ALA   19902
1873    49 0 5       2    24  5714 12243 SIKANNI RIVER   02 07 943 H M RAUP              10409  ALA   19770
1873    49 0 5       2    24  5714 12243 SIKANNI RIVER   02 07 943 H M RAUP              10410  ALA   19768
1873    49 0 5       2    24  5723 12248 BUCKINGHORSE R  01 09 943 H M RAUP              11620  ALA   19906
1873    49 0 5       2    24  5723 12248 BUCKINGHORSE R  01 09 943 H M RAUP              11621  ALA   19758
1873    49   5       2    49  5320 12245 PRINCE GEORGE.   7  5 967 G W ARGUS               6074 GWA
1873    49 0 5      12    15  6409 13953 SIXTYML RD M12  26 06 966 S L WELSH              5582  GWA
1873    49 0 5      12    30  6229 13024 OTTER LAKE      02 08 960 J A CALDER            27778  GWA
1873    49 0 5      12    32  6120 13910 DUKE RIVER      21 08 966 G W ARGUS              6008  GWA
1873    49 0 5      12    32  6120 13910 DUKE RIVER      21 08 966 G W ARGUS              6007  GWA
1873    49 0 5      12    32  6120 13910 DUKE RIVER      21 08 966 G W ARGUS              6010  GWA
1873    49 0 5      12    32  6120 13910 DUKE RIVER      21 08 966 G W ARGUS              6012  GWA
1873    49 0 5      12    32  6120 13910 DUKE RIVER      21 08 966 G W ARGUS              6004  GWA
1873    49 0 5      12    32  6120 13910 DUKE RIVER      21 08 966 G W ARGUS              6005  GWA
1873    49 0 5      12    32  6103 13831 KLUANE LAKE      2 07 944 H M RAUP              12184  ALA   19748
1873    49 0 5      12    32  6103 13831 KLUANE L        04 07 944 H M RAUP              12217  ALA   19773
1873    49 0 5      12    32  6103 13831 KLUANE L        12 07 944 H M RAUP              12430  ALA   19753
1873    49 0 5      12    32  6103 13831 KLUANE L        02 07 944 H M RAUP              12183  ALA   19763
1873    49 0 5      12    33  6140 13602 TWIN LAKES      25 06 966 S L WELSH              5549  GWA
1873    49   5      12    33  6140 13602 TWIN LAKES      25  6 966 S L WELSH               5549 GWA
1873    49 0 5      12    35  6143 13304 LAPIE LAKE      10 06 944 A E PORSILD            9304  TSC  256682
1873    49 0 5      12    40  6045 13615 MENDENHALL R    30 06 966 G W ARGUS              5080  GWA
1873    49 0 5      12    40  6045 13615 MENDENHALL R    30 06 966 G W ARGUS              5081  GWA
1873    49 0 5      12    40  6051 13747 BEAR CREEK      18 06 944 H M RAUP              11810  ALA   19882
1873    49 0 5      12    40  6051 13747 BEAR CREEK      18 06 944 H M RAUP              11813  ALA   19876
1873    49 0 5      12    40  6051 13747 BEAR CREEK      18 06 944 H M RAUP              11812  ALA   19875
1873    49 0 5      12    41  6043 13503 WHITEHORSE      31 07 944 J P ANDERSON           9607  TSC  256574
1873    49 0 5      12    41  6030 13415 ALA HWY M882    24 06 966 S L WELSH              5502  GWA
1873    49 0 5      12    41  6048 13545 TAKHINI R BR    03 07 968 S L WELSH              7764  GWA
1873    49 0 5      12    41  6010 13441 CARCROSS        02 07 968 S L WELSH              7733  GWA
1873    49 0 5      12    42  6025 13335 SQUANGA LAKE    29 06 966 G W ARGUS              5075  GWA
1873    49 0 5      12    42  6025 13335 SQUANGA LAKE    29 06 966 G W ARGUS              5073  GWA
1873    49 0 5      12    42  6013 13252 TESLIN LAKE     20 06 960 J A CALDER            25742  GWA
1873    49 0 5      12    42  6022 13351 LTL ATLIN L     18 08 943 H M RAUP              11387  ALA   19762
1873    49 0 5      12    42  6022 13351 LTL ATLIN L     19 08 943 H M RAUP              11457  ALA   19766
1873    49 0 5      12    42  6022 13351 LTL ATLIN L     19 08 943 H M RAUP              11455  ALA   19760
1873    49 0 5      12    44  6002 12835 LIARD RIVER     03 08 943 H M RAUP              10982  ALA   19567
1873    49 0 5      12    44  6002 12835 LIARD RIVER     03 08 943 H M RAUP              10987  ALA   19769
1873    49 0 5      12    44  6013 12840 WATSON LAKE     24 06 966 Y   SUDA               5019  GWA
1873    49 0 5      12    44  6013 12840 WATSON LAKE     25 06 966 Y   SUDA              11866  GWA
1873    49 0 5      12    44  6013 12840 WATSON LAKE     25 06 966 Y   SUDA              12966  GWA
1873    49 0 5      12    44  6013 12840 WATSON LAKE     25 06 966 Y   SUDA              13066  GWA
1873    49 0 5      12    44  6013 12840 WATSON LAKE     25 06 966 Y   SUDA              12766  GWA
1873    49 0 5      12    44  6013 12840 WATSON LAKE     25 06 966 Y   SUDA              12866  GWA
1873    49 0 5      12    44  6013 12840 WATSON LAKE     25 06 966 Y   SUDA              11766  GWA


 50      ARCTOPHILA

1873    50           3     8  5842  9403 FARNWORTH L.     9  7 958 G W ARGUS            142/58 GWA
1873    50           7   135  6927 13302 TUKTOYAKTUK     25 07 935 A E PORSILD                  GWA
1873    50           7   135  6900 13440 RICHARDS IS     22 07 934 A E PORSILD            7066  GH
1873    50           7   181  6750 11505 COPPERMINE      08 10 962 J A LARSEN                5  GWA
1873    50           7   402  6050 09425 MH MCCONNELL R  12 07 964 K L MACINNES            1098 UWO
1873    50           7   402  6050 09425 MH MCCONNELL R  26 06 964 K L MACINNES              16  UWO
1873    50           7   402  6050 09425 MH MCCONNELL R  03 08 965 K L MACINNES             224  UWO
1873    50           7   402  6050 09425 MH MCCONNELL R  12 07 964 K L MACINNES              78  UWO
1873    50           7   402  6050 09425 MH MCCONNELL R  03 07 964 K L MACINNES              23  UWO
1873    50          12     1  6912 13830 KING POINT      23 07 934 A E PORSILD            7172  GH
1873    50          12    24  6315 13005 CANOL RD M 284  31 08 944 A E PORSILD           11222  ISC  256385
1873    50          14   136  6810 14530 ARCTIC VILLAGE  24 06 965 V L HARMS              3775  ALA   32594
1873    50          14   137  6822 14355 OLD WOMAN CR    14 06 956 B   KESSEL              512  ALA    5050
1873    50          14   137  6832 14355 LOBO LAKE       20 06 956 B   KESSEL              542  ALA    5047
1873    50          14   137  6832 14355 LOBO LAKE       20 06 956 B   KESSEL              542  GWA
1873    50          14   137  6839 14100 FIRTH RIVER               E L LITTLE, JR.       18494  GWA
1873    50          14   137  6839 14100 FIRTH RIVER     16 06 961 E L LITTLE, JR.       18493  GWA
1873    50          14   138  6926 14347 JAGO LAKE       26 07 957 J   CANTLON          571456 US 2386024
1873    50          14   151  7010 14650 BULLEN          03 08 966 G W ARGUS              5779  GWA
1873    50          14   152  6950 14220 NUVAGAPAK PT    09 08 966 G W ARGUS              5908  GWA
1873    50          14   152  7005 14335 BARTER ISLAND   78 96 6   G W ARGUS              5870  GWA
1873    50          14   152  7005 14335 BARTER ISLAND   07 08 966 G W ARGUS              5873  GWA
1873    50          14   152  7005 14335 BARTER ISLAND   07 08 966 G W ARGUS              5874  GWA
```

57 HOOKERIANA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	57				2	52	5210	13105	U VICTORIA L	5 7 964	J A CALDER	35743	DAO
1873	57				14	34	5747	15247	KODIAK	26 06 916	D CHURCH		US 1072423
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6143	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6142	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6140	GWA
1873	57				14	046	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6238	GWA
1873	57				14	046	5915	13830	AZIMUTH PEAK.	20 6 967	G W ARGUS	6250	GWA
1873	57				14	046	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6233	GWA
1873	57				14	046	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6209	GWA
1873	57				14	046	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6232	GWA
1873	57				14	046	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6203	GWA
1873	57				14	046	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6204	GWA
1873	57				14	046	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6206	GWA
1873	57				14	046	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6207	GWA
1873	57				14	046	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6208	GWA
1873	57				14	046	5932	13940	YAKUTAT.	23 6 967	G W ARGUS	6347	GWA
1873	57				14	046	5932	13940	YAKUTAT.	23 6 967	G W ARGUS	6344	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6137	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6138	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6139	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6115	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6148	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6108	GWA
1873	57				14	046	5955	13945	YAKUTAT BAY.	15 6 967	G W ARGUS	6181	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6187	GWA
1873	57				14	046	5933	13944	YAKUTAT.	17 6 967	G W ARGUS	6197	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6126	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6149	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6108	GWA
1873	57				14	046	5955	13945	YAKUTAT BAY.	15 6 967	G W ARGUS	6169	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6162	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6154	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6155	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6131	GWA
1873	57				14	046	5955	13945	YAKUTAT BAY.	15 6 967	G W ARGUS	6179	GWA
1873	57				14	046	5955	13945	YAKUTAT BAY.	15 6 967	G W ARGUS	6177	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6146	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6145	GWA
1873	57				14	046	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6144	GWA
1873	57				14	46	5940	14000	YAKUTAT BAY	21 06 899	W BREWER	90	US 378309
1873	57				14	46	5940	14000	YAKUTAT BAY	21 06 899	W BREWER	89	US 378308
1873	57				14	46	6950	13935	YAKUTAT BAY	19 06 899	F V COVILLE	1158	US 373422
1873	57				14	46	6950	13935	YAKUTAT BAY	19 06 899	F V COVILLE	1122	US 373416
1873	57				14	46	6950	13935	YAKUTAT BAY	19 06 899	F V COVILLE	1123	US 373423
1873	57				14	46	5957	13932	HAENKE ISLAND	22 06 899	F V COVILLE	1089	US 373420
1873	57				14	46	5957	13932	HAENKE ISLAND	21 06 899	F V COVILLE	1062	US 373421
1873	57				14	46	5957	13932	HAENKE ISLAND	21 06 899	F V COVILLE	1013A	US 373415
1873	57				14	46	6950	13935	YAKUTAT BAY	22 06 899	F V COVILLE	1153	US 373413
1873	57				14	46	6950	13935	YAKUTAT BAY	22 06 899	F V COVILLE	1153	NY
1873	57				14	46	5916	13830	TANIS MESA	10 06 965	L A VIERECK	7600	GWA
1873	57				14	46	5917	13909	MTH ITALIO R	11 06 965	L A VIERECK	7621	GWA
1873	57				14	46	5916	13830	TANIS MESA	10 06 965	L A VIERECK	7600	FSLC 337
1873	57				14	46	5917	13909	MTH ITALIO R	11 06 965	L A VIERECK	7621	FSLC 335
1873	57				14	48	5925	14620	MIDDLETON IS	09 06 956	J THOMAS	5876	CAN 248171
1873	57				14	48	5925	14620	MIDDLETON IS	06 06 956	J THOMAS	5824	
1873	57				14	48	5925	14620	MIDDLETON IS	12 06 956	J THOMAS	5936	US 2313024
1873	57				14	48	5925	14620	MIDDLETON IS	14 06 956	J THOMAS	5962	US 2313033
1873	57				14	48	5925	14620	MIDDLETON IS	09 06 956	J THOMAS	5876	US 2313005
1873	57				14	64	6039	14446	CHILDS GL	25 06 931	W SETCHELL	32	NA 328886
1873	57				14	64	6039	14446	CHILDS GL	25 06 931	W SETCHELL	31	NA 318443
1873	57				14	66	6005	13930	HUBBARD GL	21 06 899	F V COVILLE	1074	US 373414
1873	57				14	66	6005	13930	HUBBARD GL	21 06 899	F V COVILLE	1061	US 373418
1873	57				14	66	6005	13930	HUBBARD GL	21 06 899	F V COVILLE	1062	US 373419
1873	57				14	66	6005	13930	HUBBARD GL	21 06 899	F V COVILLE	1061	US 1437349

66 LASIANDRA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	66				1	5	5908	11126	SLAVE R	14 06 927	H M RAUP	560	ALA 14482
1873	66				2	7	5936	12643	COAL R	12 06 960	J A CALDER	25286	ALA 17428
1873	66				2	17	5850	12235	FORT NELSON	19 05 949	J M GILLETT	2983	TSC 256566
1873	66				2	41	5402	12401	VANDERHOOF	04 08 919	J M MACOUN	100	TSC 256705
1873	66				2	49	5330	12830	SKEENA RIVER.	22 07 967	G W ARGUS	6849	GWA
1873	66				2	49	5320	12245	PRINCE GEORGE.	7 6 967	G W ARGUS	6075	GWA
1873	66				7	342	6251	12123	FORT SIMPSON	11 06 939	H M RAUP	9073	ALA 16401
1873	66				7	342	6251	12123	FORT SIMPSON	11 06 939	H M RAUP	9076	ALA 16406
1873	66				7	388	6056	12318	NAHANNI BUTTE	04 08 961	W J CODY	11985	GWA
1873	66				12	15	6404	13925	DAWSON	29 05 914	A EASTWOOD	112	CAN 45302
1873	66				12	15	6404	13925	DAWSON	29 05 914	A EASTWOOD	113	CAN 45330
1873	66				12	15	6404	13925	DAWSON	15 07 902	J M MACOUN		CAN 54403
1873	66				12	15	6404	13925	DAWSON	07 08 916	O MALTE		CAN 122153
1873	66				12	22	6336	13553	MAYO	04 08 949	J A CALDER	4255	TSC 256701
1873	66				12	35	6155	13238	LAPIE R	27 06 944	A E PORSILD	10013	CAN 45328
1873	66				12	35	6145	13258	ROSE LAPIE R	29 06 944	A E PORSILD	10118	CAN 45327
1873	66				12	35	6155	13238	LAPIE R	27 06 944	A E PORSILD	10013	TSC 256702
1873	66				12	42	6054	13258	NISUTLIN R	23 07 944	A E PORSILD	10792	CAN 45329
1873	66				12	42	6054	13258	NISUTLIN R	23 07 944	A E PORSILD	10792	TSC 256700

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	66				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5041	GWA
1873	66				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5030	GWA
1873	66				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5034	GWA
1873	66				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5040	GWA
1873	66				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5039	GWA
1873	66				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5033	GWA
1873	66				12	44	6002	12835	WATSON LAKE	03 08 943	H M RAUP	10969	ALA 19514
1873	66				12	44	6002	12835	WATSON LAKE	03 08 943	H M RAUP	10968	ALA 19379
1873	66				12	44	6002	12835	WATSON LAKE	03 08 943	H M RAUP	10968	GWA
1873	66				14	11	5822	13600	GLACIER BAY	30 07 935	W COOPER	87	F 824048
1873	66				14	11	5822	13600	GLACIER BAY	29 07 935	W COOPER	44	F 824029
1873	66				14	45	5907	13520	HAINES, MI. 6	13 7 967	G W ARGUS	6750	GWA
1873	66				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6682	GWA
1873	66				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6677	GWA
1873	66				14	45	5919	13444	HAINES	04 08 967	L A VIERECK	8593	GWA
1873	66				14	69	6132	14914	MATENUSKA	06 07 931	J P ANDERSON	869	ALA 27350
1873	66				14	69	6132	14914	MATENUSKA	06 07 931	J P ANDERSON	869	ISC 256703
1873	66				14	78	6212	15946	HOLY CROSS	22 08 925	L J PALMER	1257	ALA 2034
1873	66				14	100	6451	14743	FAIRBANKS	12 05 940	J P ANDERSON	6088	ISC 256704
1873	66				14	100	6451	14743	FAIRBANKS	10 09 956	G W ARGUS	888	ALA 4825
1873	66				14	100	6451	14743	FAIRBANKS	22 06 956	G W ARGUS	432	ALA 4757
1873	66				14	100	6452	14750	COLLEGE	05 07 957	G W ARGUS	1095	ALA 6803
1873	66				14	100	6454	14751	GOLDSTREAM CR	15 06 957	G W ARGUS	1026	ALA 6723
1873	66				14	100	6451	14743	FAIRBANKS	10 09 956	G W ARGUS	888	GWA
1873	66				14	100	6451	14743	FAIRBANKS	22 06 956	G W ARGUS	432	GWA
1873	66				14	100	6450	14725	FAIRBANKS	03 07 956	G W ARGUS	488	GWA
1873	66				14	100	6452	14750	COLLEGE	05 07 957	G W ARGUS	1095	GWA
1873	66				14	100	6455	14745	GOLDSTREAM CR	05 07 966	G W ARGUS	5091	GWA
1873	66				14	100	6454	14751	GOLDSTREAM CR	15 06 957	G W ARGUS	1026	GWA
1873	66				14	100	6439	14908	NENANA	28 06 965	L A VIERECK	7687	GWA
1873	66				14	100	6443	14809	SAM CHARLEY IS	08 07 966	L A VIERECK	8034	GWA
1873	66				14	100	6443	14809	SAM CHARLEY IS	10 07 966	L A VIERECK	8039	GWA
1873	66				14	100	6450	14915	MINTO	24 06 965	L A VIERECK	7647	GWA
1873	66				14	100	6452	14751	COLLEGE	08 07 967	L A VIERECK	8303	GWA
1873	66				14	100	6454	14749	COLLEGE	24 05 967	L A VIERECK	8193	GWA
1873	66				14	100	6454	14749	COLLEGE	08 07 967	L A VIERECK	8301	GWA
1873	66				14	100	6455	14749	GOLDSTREAM CR	05 07 966	L A VIERECK	8027	GWA
1873	66				14	101	6425	14650	HARDING L	09 951	E SCAMMAN	6484	GWA
1873	66				14	104	6454	14625	CHENA RIVER	06 07 966	G W ARGUS	5094	GWA
1873	66				14	104	6454	14625	CHENA RIVER	06 07 966	G W ARGUS	5095	GWA
1873	66				14	104	6549	14403	CIRCLE	10 08 963	L A SPETZMAN	966	CAN
1873	66				14	104	6557	14408	CIRCLE	09 07 965	L A VIERECK	7706	FSLC
1873	66				14	105	6507	14735	CHATANIKA R	03 08 957	G W ARGUS	1154	ALA 6733
1873	66				14	105	6507	14735	CHATANIKA R	03 08 957	G W ARGUS	1154	GWA

71 ATHABASCENSIS

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	71				01	4	5936	11307	MOOSE LAKE	17 08 929	H M RAUP	8120	CAN 49155
1873	71				01	4	5936	11307	MOOSE LAKE	17 08 929	H M RAUP	8128	CAN 49154
1873	71				01	4	5936	11307	MOOSE LAKE	17 08 929	H M RAUP	8129	CAN 49156
1873	71				01	34	5327	11333	EDMONTON	25 05 940	G H TURNER	1683A	DAO
1873	71				01	34	5327	11333	EDMONTON	23 06 939	G H TURNER	1299	DAO
1873	71				01	34	5327	11333	EDMONTON	03 07 941	G H TURNER	2573	DAO
1873	71				01	34	5327	11333	EDMONTON	15 06 940	G H TURNER	1782	DAO
1873	71				01	34	5327	11333	EDMONTON	22 05 941	G H TURNER	2425	DAO
1873	71				01	34	5327	11333	EDMONTON	23 06 939	G H TURNER	1299	DAO
1873	71				01	34	5327	11333	EDMONTON	15 07 939	G H TURNER	1411	DAO
1873	71				01	34	5327	11333	EDMONTON	22 05 941	G H TURNER	2429	DAO
1873	71				01	34	5327	11333	EDMONTON	25 05 940	G H TURNER	1683A	SASK 33709
1873	71				01	34	5327	11333	EDMONTON	23 06 939	G H TURNER	1299	SASK 33707
1873	71				01	41	5103	11405	CALGARY	21 06 897	J MACOUN	S.N.	CAN 94426
1873	71				02	7	5925	12610	LIARD HOT SPR	23 06 966	G W ARGUS	4991	SASK 34000
1873	71				02	7	5923	12609	LIARD HOT SPR	24 06 943	C H CLARKE	64	CAN 50169
1873	71				02	7	5923	12609	LIARD HOT SPR	25 06 960	A E PORSILD	22021	CAN 263928
1873	71				02	7	5923	12609	LIARD HOT SPR	28 06 960	A E PORSILD	22024	CAN 263934
1873	71				02	7	5923	12609	LIARD HOT SPR	29 07 943	H M RAUP	10907	CAN 278796
1873	71				02	7	5925	12610	LIARD HOT SPR	23 06 966	Y SUDA	10166	SASK 33997
1873	71				02	30	5602	12243	PEACE	02 08 932	H M RAUP	4312	CAN
1873	71				03	52	4954	09904	SIDNEY	12 06 906	J MACOUN	S.N.	CAN 70267
1873	71				07	241	6517	12651	NORMAN WELLS	23 07 953	W CODY	7483	DAO
1873	71				07	276	6424	12450	KEELE RIVER	19 07 951	A A LINDSEY	342	CAN 215891
1873	71				07	370	6152	12122	FT SIMPSON IS	01 08 955	W CODY		DAO
1873	71				07	392	6048	11543	HAY RIVER	01 07 951	A A LINDSEY	103	CAN 215892
1873	71				11	5	5935	10925	CARSWELL LAKE	12 07 962	G W ARGUS	50162	GWA
1873	71				11	5	5935	10925	CARSWELL LAKE	12 07 962	G W ARGUS	50162	DAO
1873	71				11	22	5427	10826	WATERHEN RIVER	09 08 949	A J BREITUNG	8257	DAO
1873	71				11	22	5408	10826	MEADOW LAKE	04 08 966	J H HUDSON	2453	SASK 31611
1873	71				11	28	5355	10605	WASKESIU LAKE	09 06 938	W P FRASER	S.N.	SASK 33715
1873	71				11	29	5345	10512	CANDLE LAKE	22 05 964	G W ARGUS	3869	GWA
1873	71				11	29	5355	10525	CANDLE LAKE	09 08 965	G W ARGUS	4929	SASK 28796
1873	71				11	29	5345	10512	CANDLE LAKE	21 05 964	G W ARGUS	3835	SASK 33983
1873	71				11	29	5322	10400	NIPAWIN	07 09 947	A J BREITUNG	6039	DAO
1873	71				11	29	5312	10455	PRINCE ALBERT	04 06 938	W P FRASER	S.N.	DAO
1873	71				11	29	5312	10455	PRINCE ALBERT	05 07 939	W P FRASER	S.N.	SASK 33710
1873	71				11	29	5312	10455	PRINCE ALBERT	04 06 938	W P FRASER	S.N.	SASK 33713
1873	71				11	29	5312	10455	PRINCE ALBERT	03 07 896	J MACOUN	S.N.	CAN 13671
1873	71				11	34	5251	10404	TISDALE	23 05 939	A J BREITUNG	75	DAO
1873	71				11	34	5246	10401	GOLBURN	19 08 939	A J BREITUNG	457	DAO

```
TAXON SPC S V HYB PROV QUAD  LAT  LONG     LOCALITY      DATE      COLLECTOR NAME      COL NO HERB + NO

1873    71            11   34  5246 10401 GOLBURN          07 06 9 0 A J BREITUNG             533  DAO
1873    71            11   34  5246 10401 GOLBURN          07 06 940 A J BREITUNG             532  DAO
1873    71            11   34  5246 10401 GOLBURN          19 08 939 A J BREITUNG             458  DAO
1873    71            11   34  5246 10401 GOLBURN          23 05 939 A J BREITUNG              76  DAO
1873    71            11   34  5246 10401 GOLBURN          19 08 939 A J BREITUNG             456  CAN
1873    71            11   34  5242 10400 SYLVANIA         02 06 938 W P FRASER             S.N.   DAO
1873    71            11   35  5237 10356 MCKAGUE          30 05 939 A J BREITUNG             101  DAO
1873    71            11   35  5237 10356 MCKAGUE          31 05 939 A J BREITUNG             108  DAO
1873    71            11   35  5237 10356 MCKAGUE          21 06 939 A J BREITUNG             173  DAO
1873    71            11   35  5237 10356 MCKAGUE          06 08 939 A J BREITUNG             394  DAO
1873    71            11   35  5237 10356 MCKAGUE          06 08 939 A J BREITUNG             393  DAO
1873    71            11   35  5237 10356 MCKAGUE          16 08 939 A J BREITUNG             439  DAO
1873    71            11   35  5237 10356 MCKAGUE          20 08 939 A J BREITUNG             461  DAO
1873    71            11   35  5237 10356 MCKAGUE          20 08 939 A J BREITUNG             460  DAO
1873    71            11   35  5237 10356 MCKAGUE          20 08 939 A J BREITUNG             468  DAO
1873    71            11   35  5237 10356 MCKAGUE          26 05 939 A J BREITUNG              73  DAO
1873    71            11   35  5237 10356 MCKAGUE          11 06 939 A J BREITUNG             147  DAO
1873    71            11   35  5237 10356 MCKAGUE          14 06 939 A J BREITUNG             153  DAO
1873    71            11   35  5237 10356 MCKAGUE          15 06 939 A J BREITUNG             162  DAO
1873    71            11   35  5237 10356 MCKAGUE          15 06 939 A J BREITUNG             161  DAO
1873    71            11   35  5237 10356 MCKAGUE          11 06 936 A J BREITUNG           S.N.   DAO
1873    71            11   35  5237 10356 MCKAGUE          30 05 939 A J BREITUNG             102  DAO
1873    71            11   35  5237 10356 MCKAGUE          31 05 939 A J BREITUNG             107  DAO
1873    71            11   35  5237 10356 MCKAGUE          11 06 939 A J BREITUNG             140  DAO
1873    71            11   35  5237 10356 MCKAGUE          12 05 939 A J BREITUNG              38  DAO
1873    71            11   35  5237 10356 MCKAGUE          14 05 939 A J BREITUNG              48  DAO
1873    71            11   35  5237 10356 MCKAGUE          20 05 939 A J BREITUNG              66  DAO
1873    71            11   35  5237 10356 MCKAGUE          11 06 939 A J BREITUNG             138  DAO
1873    71            11   35  5237 10356 MCKAGUE          11 06 939 A J BREITUNG             139  DAO
1873    71            11   35  5237 10356 MCKAGUE          29 05 938 A J BREITUNG           S.N.   DAO
1873    71            11   35  5237 10356 MCKAGUE          26 05 939 A J BREITUNG              84  DAO
1873    71            11   35  5237 10356 MCKAGUE          20 08 939 A J BREITUNG             461  CAN 49026
1873    71            11   35  5237 10356 MCKAGUE          20 08 939 A J BREITUNG             460  CAN 49027
1873    71            11   35  5237 10356 MCKAGUE          16 08 939 A J BREITUNG             438  CAN  49058
1873    71            12   35  6158 13240 PELLY R VALLEY   21 07 944 A F PORSILD             9777  TSC 256562
1873    71            12   35  6158 13240 PELLY R VALLEY   21 06 944 A   PORSILD             9776  CAN  49149
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 G W ARGUS               5057  GWA
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 G W ARGUS               5060  GWA
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 G W ARGUS               5062  GWA
1873    71            12   44  6003 12840 WATSON LAKE      25 06 966 G W ARGUS               5053  GWA
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 G W ARGUS               5069  GWA
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 G W ARGUS               5061  GWA
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 G W ARGUS               5056  GWA
1873    71            12   44  6003 12840 WATSON LAKE      25 06 966 G W ARGUS               5053  SASK 34002
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 G W ARGUS               5056  SASK 35968
1873    71            12   44  6003 12840 WATSON CREEK     26  6 966 G W ARGUS               50548 GWA
1873    71            12   44  6000 12833 WATSON LAKE      18 06 960 J A CALDER             25600  GWA
1873    71            12   44  6000 12833 WATSON LAKE      18 06 960 J A CALDER             25603  GWA
1873    71            12   44  6000 12833 WATSON LAKE      18 06 960 J A CALDER             25604  DAO
1873    71            12   44  6005 12843 WATSON LAKE      01 08 943 H M RAUP               10921  ALA  19482
1873    71            12   44  6005 12843 WATSON LAKE      06 08 943 H M RAUP               11061  ALA  19403
1873    71            12   44  6005 12843 WATSON LAKE      06 08 943 H M RAUP               11050  ALA  19483
1873    71            12   44  6002 12835 WATSON LAKE      03 08 943 H M RAUP               11005  ALA  19481
1873    71            12   44  6002 12835 WATSON LAKE      03 08 943 H M RAUP               11007  ALA  19404
1873    71            12   44  6005 12843 WATSON LAKE      06 08 943 H M RAUP               11050  CAN 278797
1873    71            12   44  6002 12835 WATSON LAKE      03 08 943 H M RAUP               10998  CAN 278795
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 Y   SUDA               15866  GWA
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 Y   SUDA               15966  GWA
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 Y   SUDA               16166  SASK 33986
1873    71            12   44  6003 12840 WATSON LAKE      28 06 966 Y   SUDA               15366  SASK 33991
1873    71            14  100  6448 14755 COLLEGE          22 06 956 G W ARGUS                413  GWA
1873    71            14   85  6333 14330 ALA HWY M 1237   23 06 966 L A VIERECK             7987  GWA
1873    71            14   85  6323 14330 ALA HWY M 1237   23 06 966 L A VIERECK             7986  GWA
1873    71            14  100  6448 14755 COLLEGE          22 06 956 G W ARGUS                413  ALA   6738
1873    71            14  101  6400 14530 CLEARWATER R     21 08 956 G W ARGUS                827  ALA   4896
1873    71            14  101  6400 14530 CLEARWATER R     21 08 956 G W ARGUS                827  ALA  22495
1873    71            14  101  6400 14530 CLEARWATER R     21 08 956 G W ARGUS                827  GWA


 73       MACCALLIANA

1873    73             2    7  5925 12610 LIARD HOT SP     23 06 966 G W ARGUS               5013  GWA
1873    73            11   25  5450 10330 DESCHAMBAULT L   26  6 964 G W ARGUS                4319 GWA
1873    73            12   44  6003 12840 WATSON LAKE      28 06 966 G W ARGUS               5068  GWA


 77       MONTICOLA

1873    77             2    7  5925 12610 LIARD HOT SPR    23 06 966 G W ARGUS               5015  GWA
1873    77             2   14  5822 12955 DEASE L VILLAG   13  8 969 K   RIGBY                 272 OTF   1148
1873    77             7  367  6156 12711 RABBITKETTLE H   12  6 970 G W SCOTTER            12890 GWA
1873    77             7  370  6152 12122 FT. SIMPSON       4  6 955 W J CODY                8056 GWA
1873    77            12   15  6404 13925 DAWSON           04 07 914 A   EASTWOOD             508  US 1011863
1873    77            12   20  6334 13945 OGILVIE          08 07 914 A   EASTWOOD             541  US 1011868
1873    77            12   22  6335 13554 MAYO             06 08 944 J P ANDERSON            9719  TSC 256716
1873    77            12   27  6205 13618 CARMACKS         11 07 914 A   EASTWOOD             581  US 1011872
1873    77            12   35  6155 13238 LOWER LAPIE R    20 06 944 A E PORSILD             9679  ISC 256714
1873    77            12   35  6155 13238 LOWER LAPIE R    20 06 944 A F PORSILD             9679  US 2052012
1873    77            12   40  6045 13615 MENDENHALL R     30 06 966 G W ARGUS               5082  GWA
1873    77            12   40  6045 13615 MENDENHALL R     30 06 966 G W ARGUS               5083  GWA
1873    77            12   40  6047 13735 PINE CR          28 06 944 H M RAUP               12088  ALA  19742
```

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	77				12	40	6047	13735	PINE CR	28 06 944	H M RAUP	12098	SASK 8693
1873	77				12	41	6043	13503	WHITEHORSE	01 06 944	A E PORSILD	9157	US 2051866
1873	77				12	41	6030	13415	MARSH LAKE	24 06 966	S L WELSH	5504	GWA
1873	77				12	42	6022	13351	LTL ATLIN L	19 08 943	H M RAUP	11389	ALA 19743
1873	77				12	42	6022	13351	LTL ATLIN L	19 08 943	H M RAUP	11389	SASK 8479
1873	77				14	68	6148	14512	WILLOW CREEK	01 08 967	L A VIERECK	8457	GWA
1873	77				14	83	6218	14518	GAKONA	18 06 944	J P ANDERSON	8504	ISC 256715
1873	77				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1040	ALA 8416
1873	77				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1040	GWA
1873	77				14	85	6307	14240	TETLIN LAKE	05 08 963	K SCHNEIDER	49	ALA 26619
1873	77				14	87	6308	14927	SUMMIT	24 07 967	L A VIERECK	8397	GWA
1873	77				14	87	6340	14935	TEKLANIKA R		L A VIERECK	7425	FSLC 291
1873	77				14	100	6451	14743	FAIRBANKS	10 05 940	J P ANDERSON	6083	ISC 256717
1873	77				14	100	6453	14750	COLLEGE	13 06 957	G W ARGUS	1016	ALA 6710
1873	77				14	100	6453	14750	COLLEGE	13 06 957	G W ARGUS	1018	ALA 6714
1873	77				14	100	6453	14750	COLLEGE	15 08 957	G W ARGUS	1176	ALA 6730
1873	77				14	100	6453	14750	COLLEGE	13 06 957	G W ARGUS	1017	ALA 6736
1873	77				14	100	6453	14750	COLLEGE	15 08 957	G W ARGUS	1175	ALA 6712
1873	77				14	100	6453	14750	COLLEGE	13 06 957	G W ARGUS	1016	GWA
1873	77				14	100	6454	14750	COLLEGE	07 07 966	G W ARGUS	5121	GWA
1873	77				14	100	6453	14750	COLLEGE	13 06 957	G W ARGUS	1018	GWA
1873	77				14	100	6453	14750	COLLEGE	15 08 957	G W ARGUS	1176	GWA
1873	77				14	100	6453	14750	COLLEGE	13 06 957	G W ARGUS	1017	GWA
1873	77				14	100	6453	14750	COLLEGE	15 08 957	G W ARGUS	1175	GWA
1873	77				14	100	6451	14752	UNIV EXP FARM	14 06 956	G W ARGUS	328	GWA
1873	77				14	100	6433	14703	SALCHA SLOUGH	18 06 922	O MURIE		US 1119995
1873	77				14	100	6433	14703	SALCHA SLOUGH	23 06 922	O MURIE		US 1119981
1873	77				14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	174	ALA 5271
1873	77				14	100	6431	14703	SALCHA R	22 06 966	L A VIERECK	7947	GWA
1873	77				14	100	6431	14703	SALCHA R	20 05 966	L A VIERECK	7882	GWA
1873	77				14	100	6448	14744	FAIRBANKS	19 05 965	L A VIERECK	7536	FSLC
1873	77				14	100	6448	14744	FAIRBANKS	19 05 965	L A VIERECK	7538	FSLC
1873	77				14	100	6452	14752	UNIV EXP FARM	17 06 964	L A VIERECK	7190	FSLC 313
1873	77				14	101	6355	14452	TANANA R	25 07 965	L A VIERECK	7761	GWA
1873	77				14	101	6412	14506	TANANA R	06 08 966	L A VIERECK	8064	GWA
1873	77				14	101	6412	14506	TANANA R	22 06 966	L A VIERECK	7949	GWA
1873	77				14	101	6410	14550	TANANA R	30 06 964	L A VIERECK	7233	FSLC 302
1873	77				14	103	6525	14340	YUKON R	06 08 964	L A VIERECK	7444	FSLC 287
1873	77				14	104	6545	14430	EAGLE SUMMIT	15 06 951	J L BUCKLEY	S.N.	GWA
1873	77				14	120	6644	14344	BLACK R	11 07 957	S G SHETLER	481AF	ALA 3967
78	MYRTILLIFOLIA												
1873	78				2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6813	GWA
1873	78				2	5	5956	13156	ALA HWY M762	17 05 960	J A CALDER	24458	GWA
1873	78				2	5	5955	13150	SWIFT RIVER	30 06 968	S L WELSH	7583	GWA
1873	78				2	16	5831	12434	SUMMIT PASS	14 07 943	H M RAUP	10667	ALA 19841
1873	78				2	17	5850	12235	FORT NELSON	20 05 949	J M GILLETT	3001	ISC 256141
1873	78				2	24	5705	12235	BEATTON R	26 06 943	H M RAUP	10274	ALA 19840
1873	78				2	24	5705	12235	BEATTON R	26 06 943	H M RAUP	10275	ALA 19839
1873	78				2	24	5705	12235	BEATTON R	13 06 943	H M RAUP	10062	ALA 19865
1873	78				2	24	5705	12235	BEATTON R	26 06 943	H M RAUP	10274	GWA
1873	78				2	30	5603	12340	WICKED RIVER	16 07 932	H M RAUP	3836	F 719718
1873	78				3	9	5838	9349	TWIN L. HILL	28 7 958	G W ARGUS	373/58	GWA
1873	78				7	133	6917	13354	E CHAN MACK R	01 07 957	W J CODY	9771	DAO 32696
1873	78				7	133	6915	13404	E CHAN MACK R	02 07 957	W J CODY	9796	DAO 32694
1873	78				7	133	6915	13404	E CHAN MACK R	02 07 957	W J CODY	9797	DAO 32695
1873	78				7	241	6517	12651	NORMAN WELLS	22 7 953	W J CODY	7444	DAO
1873	78				7	276	6454	12534	FORT NORMAN	7 8 940	A DUTILLY	8860	DAO
1873	78				7	307	6338	12837	JUNE LAKE	31 7 967	W J CODY	17089	DAO
1873	78				7	308	6330	12647	HAYHOOK LAKE	6 8 967	W J CODY	17557	DAO
1873	78				7	339	6241	12750	GRIZZLY BEAR L	10 8 967	W J CODY	17998	DAO
1873	78				7	339	6205	12735	BRINTNELL L	23 06 939	H M RAUP	9254	ALA 14776
1873	78				7	339	6205	12735	BRINTNELL L	23 06 939	H M RAUP	9255	ALA 14777
1873	78				7	341	6242	12337	MT FLETT	1 8 961	W J CODY	11889	DAO
1873	78				7	347	6237	11130	TALTHEILEI NAR	09 07 927	H M RAUP	519	ALA 14605
1873	78				7	367	6157	12713	RABBITKETTLE L	10 8 967	W J CODY	17918	DAO
1873	78				7	368	6137	12544	S. NAHANNI R.	29 6 970	G W SCOTTER	12485	GWA
1873	78				7	369	6152	12320	LTL DOCTOR L.	9 8 961	W J CODY	12150	DAO
1873	78				7	369	6158	12325	CLI LAKE	11 8 961	W J CODY	12290	DAO
1873	78				7	421	6158	12815	FLAT RIVER	2 8 967	K W SPICER	1625	DAO
1873	78				11	1	5948	10833	TAZIN RIVER	10 07 914	F HARPER	99024	GWA
1873	78				12	15	6404	13925	DAWSON	27 05 914	A EASTWOOD	104A	A
1873	78				12	22	6345	13554	MAYO	06 08 944	J P ANDERSON	9718	ISC 256730
1873	78				12	30	6249	13043	CANOL RD M245	21 08 944	A E PORSILD	11415	GH
1873	78				12	32	6159	14033	WHITE RIVER	21 07 944	J P ANDERSON	9344	ISC 256738
1873	78				12	32	6122	13859	BURWASH LDG	13 07 944	H M RAUP	12442	ALA 19772
1873	78				12	32	6118	13530	DAWSON HWY M36	25 06 966	S L WELSH	5535	GWA
1873	78				12	35	6140	13302	CANOL RD M105	10 06 944	A E PORSILD	9310	ISC 256138
1873	78				12	35	6155	13228	CANOL RD M132	17 06 944	A E PORSILD	9571	ISC 256139
1873	78				12	35	6155	13228	CANOL RD M132	17 06 944	A E PORSILD	9571	GH
1873	78				12	40	6045	13615	MENDENHALL R	30 06 966	G W ARGUS	5085	GWA
1873	78				12	40	6047	13735	PINE CREEK	25 06 948	H M RAUP	13259	ALA 19478
1873	78				12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11799	ALA 19866
1873	78				12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11798	ALA 19859
1873	78				12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11800	ALA 19843
1873	78				12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11799	GWA
1873	78				12	40	6047	13735	PINE CREEK	17 06 944	H M RAUP	11800	GWA
1873	78				12	41	6043	13503	WHITEHORSE	31 05 949	J M GILLETT	3103	ISC 256142
1873	78				12	41	6043	13503	WHITEHORSE	01 06 944	A E PORSILD	9151	GH

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	78				12	42	6009	13245	TESLIN	08 06 956	G W ARGUS	272	ALA 4821
1873	78				12	42	6009	13245	TESLIN	08 06 956	G W ARGUS	272	GWA
1873	78				12	42	6009	13245	TESLIN	08 06 956	G W ARGUS	273	GWA
1873	78				12	42	6054	13258	NISUTLIN R CP	23 07 944	A E PORSILD	10782	GH
1873	78				12	42	6022	13351	LTL ATLIN L	19 08 943	H M RAUP	11390	ALA 19863
1873	78				12	42	6022	13351	LTL ATLIN L	19 08 943	H M RAUP	11390	GWA
1873	78				12	42	6006	13227	ALA HWY M793	24 06 966	S L WELSH	5478	GWA
1873	78				12	42	6016	13255	TESLIN LAKE	02 07 968	S L WELSH	7616	GWA
1873	78				12	43	6005	13040	RANCHERIA	21 06 948	J P ANDERSON	10428	ISC 256732
1873	78				12	43	6001	13111	ALA HWY M733	31 05 960	J A CALDER	24853	GWA
1873	78				12	44	6003	12840	WATSON LAKE	22 06 946	J P ANDERSON	9948	ISC 256731
1873	78				12	44	6003	12840	WATSON LAKE	28 06 966	G W ARGUS	5063	GWA
1873	78				12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5043	GWA
1873	78				12	44	6002	12900	ALA HWY M658	29 06 968	S L WELSH	7474	GWA
1873	78				12	44	6007	12844	WATSON LAKE	28 06 968	S L WELSH	7449	GWA
1873	78				14	68	6148	14512	WILLOW CREEK	01 08 967	L A VIERECK	8455	GWA
1873	78				14	69	6156	14710	GLENN HWY M128	13 06 944	J P ANDERSON	8449	GWA
1873	78				14	69	6156	14710	GLENN HWY M128	13 06 944	J P ANDERSON	8450	ISC 256741
1873	78				14	69	6156	14710	GLENN HWY M128	13 06 944	J P ANDERSON	8449	ISC 256729
1873	78				14	69	6156	14710	GLENN HWY M128	22 06 947	E SCAMMAN	4524	GWA
1873	78				14	69	6156	14710	GLENN HWY M128	22 06 947	E SCAMMAN	4524	SASK 34212
1873	78				14	80	6233	15336	FAREWELL LAKE	3 8 949	W H DRURY	2402	CAN
1873	78				14	83	6225	14451	TOKSLA HWY M20	24 06 944	J P ANDERSON	8710	GWA
1873	78				14	83	6225	14451	TOKSLA HWY M20	24 06 944	J P ANDERSON	8710	ISC 256728
1873	78				14	83	6208	14528	RICH HWY M122	17 06 944	J P ANDERSON	8493	ISC 256727
1873	78				14	83	6217	14516	GAKONA	20 06 944	J P ANDERSON	8603	ISC 256743
1873	78				14	83	6206	14542	GLENNALLEN	10 06 967	L A VIERECK	8209	GWA
1873	78				14	83	6206	14542	GLENNALLEN	10 06 967	L A VIERECK	8210	GWA
1873	78				14	83	6206	14542	GLENNALLEN	24 06 965	S L WELSH	4306	ISC 246052
1873	78				14	85	6317	14232	ALA HWY M1247	15 07 944	J P ANDERSON	9109	ISC 256739
1873	78				14	85	6330	14220	TAYLOR HWY M19	05 08 965	V L HARMS	4727	ALA 32590
1873	78				14	85	6355	14209	TAYLOR HWY M50	27 06 963	J NAVA	57	ALA 23942
1873	78				14	86	6350	14450	GERSTLE RIVER	16 07 957	L A SPETZMAN	580	ALA 6846
1873	78				14	86	6355	14420	LOWER BERRY CR	06 07 957	L A SPETZMAN	372	ALA 6845
1873	78				14	86	6355	14452	HEALY LAKE	23 07 965	L A VIERECK	7739	FSLC
1873	78				14	87	6352	14858	HEALY	22 07 939	J P ANDERSON	5709	ISC 256725
1873	78				14	87	6350	14925	SAVAGE R CAMP	18 06 928	Y MEXIA	2018	ALA 10204
1873	78				14	87	6344	14855	MCKINLEY PARK	08 08 959	G A PETRIDES		ALA 27163
1873	78				14	87	6335	14845	CANTWELL	30 07 964	L A VIERECK	7409	FSLC 296
1873	78				14	89	6315	15520	NIXON FORK	28 6 950	W H DRURY	3793	CAN
1873	78				14	100	6448	14750	FAIRBANKS	12 05 940	J P ANDERSON	6086	ISC 256745
1873	78				14	100	6452	14750	COLLEGE	13 06 957	G W ARGUS	1021	ALA 6824
1873	78				14	100	6452	14752	SMITH LAKE	14 06 956	G W ARGUS	310	GWA
1873	78				14	100	6451	14752	UNIV EXPL FARM	14 06 956	G W ARGUS	329	GWA
1873	78				14	100	6452	14750	COLLEGE	13 06 957	G W ARGUS	1021	GWA
1873	78				14	100	6452	14750	COLLEGE	13 06 957	G W ARGUS	1022	GWA
1873	78				14	100	6452	14750	COLLEGE	13 06 957	G W ARGUS	1014	GWA
1873	78				14	100	6452	14752	SMITH LAKE	26 05 965	V L HARMS	3341	ALA 32630
1873	78				14	100	6452	14750	COLLEGE	03 06 965	V L HARMS	3442	ALA 32635
1873	78				14	100	6452	14750	COLLEGE	03 06 965	V L HARMS	3443	ALA 32634
1873	78				14	100	6452	14752	SMITH LAKE	31 05 965	V L HARMS	3397	ALA 32586
1873	78				14	100	6450	14750	COLLEGE	16 06 952	B KESSEL		ALA 22863
1873	78				14	100	6452	14750	COLLEGE	16 06 952	B KESSEL		ALA 22864
1873	78				14	100	6448	14750	FAIRBANKS	06 933	L J PALMER	153	ALA 5269
1873	78				14	100	6448	14750	FAIRBANKS	20 07 931	L J PALMER	13	ALA 5971
1873	78				14	100	6448	14750	FAIRBANKS	20 07 931	L J PALMER	20	ALA 5974
1873	78				14	100	6448	14750	FAIRBANKS	06 933	L J PALMER	173	ALA 5272
1873	78				14	100	6448	14750	FAIRBANKS	15 08 963	L A VIERECK	7065	FSLC
1873	78				14	100	6448	14750	FAIRBANKS	15 08 963	L A VIERECK	7064	FSLC 22
1873	78				14	100	6448	14750	FAIRBANKS	15 08 963	L A VIERECK	7053	FSLC 23
1873	78				14	101	6402	14534	DELTA JUNCT	28 05 951	W J CODY	4896	GWA
1873	78				14	101	6405	14515	GERSTLE RIVER	06 08 963	L A VIERECK	7028	FSLC
1873	78				14	102	6410	14136	FRANKLIN	13 07 941	J P ANDERSON	7221	ALA 536
1873	78				14	102	6405	14147	CHICKEN	29 07 964	V L HARMS	3069	ALA 32650
1873	78				14	119	6603	14417	YUKON RIVER	11 07 965	L A VIERECK	7721	FSLC
1873	78				14	120	6644	14334	BLACK RIVER	11 07 957	S G SHETLER	479AF	ALA 3965
80	NUMMULARIA												
1873	80				14	38	5710	17015	ST PAUL ISLAND	08 07 941	L J COLE	S.N.	ISC 256642
1873	80				14	38	5710	17015	ST PAUL ISLAND	08 07 941	L J COLE	S.N.	WIS
1873	80				14	38	5710	17015	ST PAUL ISLAND	14 06 925	E JOHNSTON	S.N.	NA 319618
83	1	OVALIFOLIA VAR. OVALIFOLIA											
1873	83	0	1		12	2	6930	13920	FIRTH RIVER	06 08 953	E H MCEWEN	161	CAN 226062
1873	83	0	1		14	18	5212	17406	NAZAN BAY	24 06 949	H MILLER	1040	MICH
1873	83	0	1		14	18	5207	17430	ATKA ISLAND	20 06 944	C L YORK	44368	ISC 256237
1873	83	0	1		14	22	5310	16845	UMNAK ISLAND	07 962	M JOHNSON	478	WIS
1873	83	0	1		14	22	5310	16845	UMNAK ISLAND	07 962	M JOHNSON	562	WIS
1873	83	0	1		14	24	5408	16546	AKUTAN	933	O W GEIST	S.N.	ALA 29713
1873	83	0	1		14	24	5408	16546	AKUTAN	10 07 934	I L NORBERG		ISC 253240
1873	83		1		14	25	5459	16228	COLD BAY	24 7 971	M WILLIAMS	2949	GWA
1873	83		1		14	25	5459	16228	COLD BAY		M WILLIAMS	2974	GWA
1873	83	0	1		14	27	5540	15950	STEPOVAK BAY	08 07 899	C PALACHE		US 375470
1873	83	0	1		14	28	5520	16030	SAND POINT	07 07 899	F COVILLE	1799	US 373507
1873	83	0	1		14	28	5507	16144	DOLGOI ISLAND	24 05 931	H MASON	6014	GH
1873	83	0	1		14	28	5543	16011	STEPOVAK BAY	08 07 899	C PALACHE		US 375471
1873	83	0	1		14	30	5618	15824	CHIGNIK	19 07 945	I NORBERG		GH

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	83	0	1		14	35	5705	15425	OLGA BAY	06 06 940	E LOOFF	1275	A
1873	83	0	1		14	35	5705	15425	OLGA BAY	06 06 940	E LOOFF	1276	A
1873	83	0	1		14	35	5741	15529	PUALE BAY	31 07 904	C V PIPER	4596	US 421036
1873	83	0	1		14	36	5734	15602	KANATAK	26 05 933	O W GEIST		ALA 29714
1873	83	0	1		14	36	5748	15632	BECHAROF LAKE	10 08 949	K RAUP	190	US 2176361
1873	83	0	1		14	38	5710	17015	ST PAUL ISLAND	08 07 941	L J COLE		ISC 256238
1873	83	0	1		14	41	5843	15652	SAVONOSKI	24 06 919	A E MILLER		US 1072627
1873	83	0	1		14	42	5838	15552	NAKNEK LAKE	16 06 918	P P HAGELBARGER	247	US 1072871
1873	83	0	1		14	55	5949	16608	DUCHIKTHLUK R	17 08 965	G BOS		ALA 32289
1873	83	0	1		14	57	6004	16716	DOOKSOOK LG	11 08 965	G BOS		ALA 32288
1873	83	0	1		14	62	6028	15028	SKILAK LAKE	31 05 951	J A CALDER	4988	DAO 32783
1873	83	0	1		14	62	6028	15028	SKILAK LAKE	31 05 951	J A CALDER	4987	DAO 32782
1873	83	0	1		14	62	6028	15028	SKILAK LAKE	31 05 951	J A CALDER	4988	US 2331326
1873	83	0	1		14	62	6028	15028	SKILAK LAKE	31 05 951	J A CALDER	4987	US 2331325
1873	83	0	1		14	92	6330	16200	WHALE ISLAND	08 06 931	H MASON	6059	GH
1873	83	0	1		14	93	6319	17127	SW CAPE	08 933	O W GEIST		ALA 29782
1873	83	0	1		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	109	ALA 29387
1873	83	0	1		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	103	ALA 29379
1873	83	0	1		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	112	ALA 29414
1873	83	0	1		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	105	ALA 29415
1873	83	0	1		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	111	ALA 29385
1873	83	0	1		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	102	ALA 29380
1873	83	0	1		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	113	ALA 29386
1873	83	0	1		14	93	6305	16849	PUNUK ISLAND	15 08 934	O W GEIST		ALA 29044
1873	83	0	1		14	94	6430	16530	NOME	10 06 938	J P ANDERSON	3178B	ISC 253233
1873	83	0	1		14	94	6430	16530	NOME	17 06 954	C HELLER	1084	ALA 24328
1873	83	0	1		14	94	6430	16530	NOME	17 06 954	C HELLER	1084	ALA 27065
1873	83	0	1		14	94	6430	16530	NOME	06 08 926	A PORSILD	1330	GH
1873	83	0	1		14	95	6442	16202	MOSES POINT	04 07 950	R S SIGAFOOS	3691	GWA
1873	83	0	1		14	111	6458	16805	KING ISLAND	25 06 938	J P ANDERSON	3607B	ISC 255908
1873	83	0	1		14	111	6512	16645	PORT CLARENCE	13 08 901	F WALPOLE	1826	US 378940
1873	83	0	1		14	111	6512	16645	PORT CLARENCE	02 08 901	F A WALPOLE	1672	US 2440700
1873	83	0	1		14	111	6512	16645	PORT CLARENCE	02 08 901	F A WALPOLE	1672	US 378784
1873	83	0	1		14	128	6758	16432	KIVALINA	27 06 960	A BUCKNELL	36	ALA 26594
1873	83	0	1		14	128	6758	16432	KIVALINA	27 06 960	A BUCKNELL	36	ALA 26594
1873	83	0	1		14	129	6821	16627	POINT HOPE	09 08 938	J P ANDERSON	4602	ISC 253223
1873	83	0	1		14	129	6821	16627	POINT HOPE	12 07 938	J P ANDERSON	3787	ISC 256226
1873	83	0	1		14	129	6853	16613	CAPE LISBURNE	07 08 938	J P ANDERSON	4496	ISC 256231
1873	83		1		14	129	6806	16545	OGOTORUK CREEK	11 8 966	G W ARGUS	5945	GWA
1873	83	0	1		14	129	6821	16627	POINT HOPE	26 06 956	W BERRY	S.N.	GWA
1873	83	0	1		14	129	6810	16540	OGOTORUK CREEK	05 08 959	A W JOHNSON	608	ALA 9205
1873	83	0	1		14	129	6810	16540	OGOTORUK CREEK	28 06 959	A W JOHNSON	207	ALA 9199
1873	83	0	1		14	129	6810	16540	OGOTORUK CREEK	18 08 959	A W JOHNSON	723	ALA 9198
1873	83	0	1		14	129	6810	16540	OGOTORUK CREEK	18 08 959	A W JOHNSON	723	GWA
1873	83	0	1		14	129	6810	16540	OGOTORUK CREEK	05 08 959	A W JOHNSON	608	GWA
1873	83	0	1		14	129	6810	16540	OGOTORUK CREEK	28 06 959	A W JOHNSON	207	GWA
1873	83	0	1		14	129	6821	16627	POINT HOPE	22 08 951	E SCAMMAN	S.N.	GWA
1873	83	0	1		14	129	6819	16640	POINT HOPE	08 07 960	L VIERECK	4022	ALA 13222
1873	83	0	1		14	129	6845	16600	UKINYIK CREEK	31 07 960	L VIERECK	4420	ALA 13238
1873	83	0	1		14	129	6821	16627	POINT HOPE	12 07 966	S L WELSH	5830	GWA
1873	83	0	1		14	129	6821	16627	POINT HOPE	12 07 966	S L WELSH	5830	ISC 253604
1873	83	0	1		14	130	6855	16437	PITMAGEA R	23 06 957	J CANTLON	57149	GH
1873	83	0	1		14	130	6855	16437	PITMAGEA R	24 06 957	J CANTLON	57209	GH
1873	83	0	1		14	130	6855	16436	CAPE SABINE	14 07 959	S SHETLER	3332	MICH
1873	83	0	1		14	138	6950	14220	NUVAGAPAK PT	08 08 966	G W ARGUS	5877	GWA
1873	83	0	1		14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5934	GWA
1873	83	0	1		14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5933	GWA
1873	83	0	1		14	138	6950	14220	NUVAGAPAK PT	08 08 966	G W ARGUS	5875	GWA
1873	83	0	1		14	138	6953	14215	NUVAGAPAK LG	26 08 965	M L HENRY	65	ALA 30384
1873	83	0	1		14	138	6946	14137	ICY REEF	23 07 959	C LEWIS	3	CAN 296361
1873	83	0	1		14	139	7000	14454	COLLINSON PT	17 07 914	F JOHANSEN	116	CAN 50113
1873	83	0	1		14	139	6917	14600	CANNING RIVER	28 07 947	R MCGREGOR		MICH
1873	83	0	1		14	139	6924	14608	CANNING RIVER	28 07 947	L SPETZMAN	403	ISC 256230
1873	83	0	1		14	145	6946	16303	POINT LAY	06 08 938	J P ANDERSON	4418	ISC 256227
1873	83	0	1		14	145	6946	16303	POINT LAY	30 08 947	R F BLACK		ISC 256229
1873	83	0	1		14	145	6946	16304	POINT LAY REEF	01 07 951	K CHAMBERS		GH
1873	83	0	1		14	146	7020	16152	ICY CAPE	16 08 931	H MASON	6401	US 1789440
1873	83	0	1		14	147	7040	15655	MEADE RIVER	17 07 958	G WARD	1190	GH
1873	83	0	1		14	147	7040	15655	MEADE RIVER	17 07 952	G WARD	1188	GH
1873	83	0	1		14	147	7040	15655	MEADE RIVER	16 07 952	G WARD	1146	US 2312307
1873	83	0	1		14	147	7040	15655	MEADE RIVER	17 07 952	G WARD	1190	US 2312331
1873	83	0	1		14	147	7040	15655	MEADE RIVER	16 07 952	G WARD	1144	US 2312305
1873	83	0	1		14	147	7040	15655	MEADE RIVER	16 07 952	G WARD	1145	US 2312306
1873	83	0	1		14	148	7047	15502	HALF MOON 3	23 07 962	D CHESEMORE	53	ALA 29361
1873	83	0	1		14	148	7057	15540	OARLOCK IS	25 08 951	I WIGGINS	12802	GH
1873	83	0	1		14	149	7027	15007	COLVILLE DELTA	14 08 901	F C SCHRADER		US 377533
1873	83	0	1		14	149	7027	15007	COLVILLE DELTA	14 08 901	F C SCHRADER		US 377532
1873	83		1		14	151	7010	14650	BULLEN	3 8 966	G W ARGUS	5780	GWA
1873	83		1		14	151	7010	14650	BULLEN	4 8 966	G W ARGUS	5788	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5792	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5794	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5795	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5750	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5739	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5751	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5773	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5785	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5808	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5810	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5812	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5783	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5782	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5741	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5746	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5740	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5745	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5789	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5774	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5791	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5797	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5777	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5796	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5790	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5793	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5781	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5772	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5738	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5734	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5775	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5811	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5776	GWA
1873	83	0	1		14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5743	GWA
1873	83		1		14	151	7010	14650	BULLEN	3 8 966	G W ARGUS	5780	GWA
1873	83	0	1		14	151	7001	14510	KONGANEVIK PT	07 914	F JOHANSEN	82B	CAN 50119
1873	83	0	1		14	151	7001	14510	KONGANEVIK PT	07 914	F JOHANSEN	82A	US 1243596
1873	83	0	1		14	151	7001	14428	ANDERSON POINT	29 06 959	L SPETZMAN	3579A	CAN 296360
1873	83	0	1		14	152	7008	14315	MARTIN POINT	30 07 914	F JOHANSEN	1368	CAN 50115
1873	83	0	1		14	153	7125	15628	POINT BARROW	09 06 88	MURDOCK	65	GH
1873	83	0	1		14	153	7057	15540	DEASE INLET	25 08 951	I WIGGINS	12802	US 2312904
1873	83	0	1		14	153	7108	15703	BARROW	23 07 950	I WIGGINS	12500	GH

83 2 OVALIFOLIA VAR. ARCTOLITORALIS

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	83	0	2		7	133	6929	13515	KENDALL ISLAND	11 08 951	E MCEWEN	52	CAN 219336
1873	83	0	2		7	133	6929	13515	KENDALL ISLAND	11 08 951	E MCEWEN	51	CAN 219337
1873	83	0	2		12	2	6900	13730	SHINGLE POINT	24 07 934	A PORSILD	7094	CAN 50110
1873	83	0	2		14	91	6352	16047	UNALAKLEET	16 08 920	H JOHNSTON	79	NY
1873	83	0	2		14	91	6352	16047	UNALAKLEET	16 08 920	H JOHNSTON	791	US 2034617
1873	83	0	2		14	94	6430	16525	NOME	07 936	G N JONES	9038	ISC 146465
1873	83	0	2		14	94	6430	16525	NOME	29 08 909	R KELLOGG		US 1366547
1873	83	0	2		14	94	6428	16517	FT DAVIS	07 08 968	R PEGAU		GWA
1873	83	0	2		14	94	6430	16525	NOME	04 08 945	E SCAMMAN	3841A	GH
1873	83	0	2		14	95	6426	16500	CAPE NOME	07 08 948	E LEPAGE	23,807	DAO 32785
1873	83	0	2		14	95	6426	16500	CAPE NOME	07 08 948	E LEPAGE	23,807	US 2068316
1873	83	0	2		14	111	6516	16622	TELLER	06 08 949	E SCAMMAN	5457	GH
1873	83	0	2		14	111	6516	16622	TELLER	06 08 949	E SCAMMAN	5459	GH
1873	83	0	2		14	111	6512	16645	PORT CLARENCE	02 08 901	F WALPOLE	1673	US 378785
1873	83	0	2		14	113	6604	16242	DEERING	13 08 938	J P ANDERSON	4806	ISC 256232
1873	83	0	2		14	113	6654	16235	KOTZEBUE	12 08 938	J P ANDERSON	4705	ISC 256243
1873	83	0	2		14	113	6654	16235	KOTZEBUE	12 08 938	J P ANDERSON	4705	US 2440684
1873	83	0	2		14	113	6655	16240	KOTZEBUE	950	R RAUSCH		US 2349384
1873	83	0	2		14	113	6655	16240	KOTZEBUE	17 08 951	E SCAMMAN	6461	GWA
1873	83	0	2		14	113	6655	16240	KOTZEBUE	17 08 951	E SCAMMAN	6461	GWA
1873	83	0	2		14	113	6655	16240	KOTZEBUE	10 07 966	S L WELSH	5786	GWA
1873	83	0	2		14	113	6655	16240	KOTZEBUE	10 07 966	S L WELSH	5787	GWA
1873	83	0	2		14	128	6758	16432	KIVELINA	10 08 938	J P ANDERSON	4626B	ISC 256242
1873	83	0	2		14	129	6806	16545	OGOTORUK CR	11 08 966	G W ARGUS	5942A	GWA
1873	83	0	2		14	129	6806	16545	OGOTORUK CR	11 08 966	G W ARGUS	5940	GWA
1873	83	0	2		14	129	6806	16545	OGOTORUK CR	11 08 966	G W ARGUS	5939	GWA
1873	83	0	2		14	129	6806	16545	OGOTORUK CR	11 08 966	G W ARGUS	5943	GWA
1873	83	0	2		14	129	6806	16545	OGOTORUK CR	11 08 966	G W ARGUS	5947	GWA
1873	83	0	2		14	129	6806	16545	OGOTORUK CR	11 08 966	G W ARGUS	5938	GWA
1873	83		2		14	129	6806	16545	OGOTORUK CR.	11 8 966	G W ARGUS	5945	GWA
1873	83	0	2		14	129	6806	16545	OGOTORUK CR	11 08 966	G W ARGUS	5968	GWA
1873	83	0	2		14	129	6806	16545	OGOTORUK CR	11 08 966	G W ARGUS	5942	GWA
1873	83	0	2		14	129	6820	16651	POINT HOPE	22 08 949	E SCAMMAN	637B	GH
1873	83	0	2		14	130	6855	16430	PITMEGEA R	14 07 959	S SHETLER	3332	GH
1873	83	0	2		14	145	6946	16303	POINT LAY	06 08 938	J P ANDERSON	4417	ISC 256228
1873	83	0	2		14	145	6946	16303	POINT LAY	14 08 943	S GOODMAN	32	GH
1873	83	0	2		14	145	6946	16303	POINT LAY	14 08 933	F GOODMAN	32	US 1602441

83 3 OVALIFOLIA VAR. GLACIALIS

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	83	0	3		14	139	6959	14454	CAMDEN BAY	06 914	F JOHANSEN	44A	CAN 50116
1873	83	0	3		14	139	6959	14454	CAMDEN BAY	06 914	F JOHANSEN	44B	CAN 50117
1873	83	0	3		14	147	7040	15655	MEADE RIVER	17 07 952	G H WARD	1188	US 2312329
1873	83	0	3		14	147	7040	15655	MEADE RIVER	17 07 952	G H WARD	1189	US 2312330
1873	83	0	3		14	148	7032	15548	TOPAGORUK R	08 07 956	I L WIGGINS	1361	US 2263953
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5998	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5994	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5151	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5131	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5145	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5993	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5997	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5999	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5984	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5986	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5987	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5995	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5982	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5983	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5980	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5992	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5153	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5150	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5144	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5122	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5142	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5146	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5143	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5133	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5127	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5154	GWA
1873	83	0	3		14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5126	GWA
1873	83		3		14	153	7125	15630	PT.BARROW	11 8 966	G W ARGUS	5981	GWA
1873	83	0	3		14	153	7119	15643	BARROW	27 07 947	R F BLACK	4715F	ISC 256626
1873	83	0	3		14	153	7119	15643	BARROW	27 07 947	R F BLACK	4714F	ISC 256623
1873	83	0	3		14	153	7119	15643	BARROW	27 07 947	R F BLACK	4716F	ISC 256625
1873	83	0	3		14	153	7119	15643	BARROW	26 07 947	R F BLACK		ISC 256624
1873	83	0	3		14	153	7120	15640	BARROW	04 07 961	K HOLMEN	611847	DAO 32733
1873	83	0	3		14	153	7125	15630	POINT BARROW	09 06 88	MURDOCK	65	US 19207
1873	83	0	3		14	153	7125	15630	POINT BARROW	22 06 88	MURDOCK	29	GH
1873	83	0	3		14	153	7125	15630	POINT BARROW	08 947	P F SCHOLANDER		ISC 256627
1873	83	0	3		14	153	7125	15630	POINT BARROW	947	P SCHOLANDER	513	US 2031640
1873	83	0	3		14	153	7119	15643	BARROW	31 07 950	J THOMAS	2135	CAN 248983
1873	83	0	3		14	153	7119	15643	BARROW	31 07 950	J THOMAS	2136	US 2312572
1873	83	0	3		14	153	7119	15643	BARROW	31 07 950	J THOMAS	2136	GH
1873	83	0	3		14	153	7119	15643	BARROW	31 07 950	J THOMAS	2135	US 2312571
1873	83	0	3		14	153	7119	15643	BARROW	31 07 950	J THOMAS	2156	GH
1873	83	0	3		14	153	7119	15643	BARROW	31 07 950	J THOMAS	2153	GH
1873	83	0	3		14	153	7124	15629	NUWUK	11 08 950	I L WIGGINS	12573	ALA 6551
1873	83	0	3		14	153	7124	15629	NUWUK	11 08 950	I L WIGGINS	12573	CAN 248984
1873	83	0	3		14	153	7124	15629	NUWUK	11 08 950	I L WIGGINS	12573	ISC 224815
1873	83	0	3		14	153	7124	15629	NUWUK	11 08 950	I L WIGGINS	12573	MICH
1873	83	0	3		14	153	7119	15643	BARROW	29 06 950	I L WIGGINS	12413	GH
1873	83	0	3		14	153	7123	15629	NUWUK	29 06 952	I L WIGGINS	12842	US 2312909
1873	83	0	3		14	153	7123	15629	NUWUK	29 06 952	I L WIGGINS	12843	US 2312910
1873	83	0	3		14	153	7124	15629	NUWUK	11 08 950	I L WIGGINS	12573	US 2396195
1873	83	0	3		14	153	7124	15629	NUWUK	11 08 950	I L WIGGINS	12573	GH
1873	83	0	3		14	153	7123	15629	NUWUK	29 06 952	I L WIGGINS	12843	GH
83	4 OVALIFOLIA VAR. CYCLOPHYLLA												
1873	83	0	4		14	15	5148	17947E	RAT ISLAND	01 07 932	E HULTEN	5995	GH
1873	83	0	4		14	15	5132	17900E	AMCHITKA IS	02 08 967	W M KLEIN	2381	CS
1873	83	0	4		14	17	5205	17608	GR SITKAN IS	08 950	T BANK JR.	4033	MICH
1873	83	0	4		14	17	5205	17608	GR SITKAN IS	08 950	T BANK JR.	4038	MICH
1873	83	0	4		14	17	5156	17644	ADAK ISLAND	08 950	T BANK JR.	4225	MICH
1873	83	0	4		14	17	5156	17644	ADAK ISLAND	20 08 949	L JORDAL	2700	MICH
1873	83	0	4		14	21	5256	16835	NIKOLSKI	08 962	M JOHNSON	980	WIS
1873	83	0	4		14	23	5335	16650	UNALASKA	10 06 926	G HALEY		A
1873	83	0	4		14	23	5352	16632	UNALASKA	10 06 926	G HALLEY		NY
1873	83	0	4		14	27	5505	15929	HALL ISLAND	14 07 899	F COVILLE	1084	US 373511
1873	83	0	4		14	27	5505	15929	HALL ISLAND	14 07 899	F V COVILLE	2085	US 373513
1873	83	0	4		14	27	5505	15929	HALL ISLAND	14 07 899	F V COVILLE	2085	US 373512
1873	83	0	4		14	27	5538	15940	FOX BAY	28 07 913	R F GRIGGS		US 1072233
1873	83	0	4		14	29	5520	16248	IZEMBEK LAGOON	15 06 925	O MURIE		GH
1873	83	0	4		14	38	5710	17015	ST PAUL IS	18 07 938	J P ANDERSON	4059	ISC 256561
1873	83	0	4		14	38	5710	17015	ST PAUL IS	09 07 899	W H BREWER	329	US 378317
1873	83	0	4		14	38	5710	17015	ST PAUL IS	09 07 899	W H BREWER	325	US 378315
1873	83	0	4		14	38	5700	17000	SEAL ISLAND	895	BRYANT		US 26251
1873	83	0	4		14	38	5710	17015	ST PAUL IS	08 07 941	L J COLE		ISC 256503
1873	83	0	4		14	38	5710	17015	ST PAUL IS	09 07 899	L J COLE		US 378343
1873	83	0	4		14	38	5710	17015	ST PAUL IS	17 06 963	P COLINVAUX	1	GH
1873	83	0	4		14	38	5710	17015	ST PAUL IS	09 07 899	F V COVILLE	1837	A
1873	83	0	4		14	38	5710	17015	ST PAUL IS	09 07 899	F V COVILLE	1837	US 373508
1873	83	0	4		14	38	5710	17015	ST PAUL IS	09 07 899	F V COVILLE	1837	US 373509
1873	83	0	4		14	38	5710	17015	ST PAUL IS	07 08 932	E HULTEN		NY
1873	83	0	4		14	38	5635	16935	ST GEORGE IS	06 07 924	E JOHNSTON		US 1289510
1873	83	0	4		14	38	5710	17015	ST PAUL IS	29 07 897	T KINCAID		US 378364
1873	83	0	4		14	38	5710	17015	ST PAUL IS	29 06 914	J MACOUN		CAN 46451
1873	83	0	4		14	38	5710	17015	ST PAUL IS	29 06 914	J MACOUN		CAN 46452
1873	83	0	4		14	38	5710	17015	ST PAUL IS	09 08 914	J MACOUN		CAN 46450
1873	83	0	4		14	38	5710	17015	ST PAUL IS	16 08 914	J MACOUN		CAN 46449
1873	83		4		14	38	5707	17016	ST PAUL ISLAND	05 07 897	J M MACOUN	16645	NY
1873	83	0	4		14	38	5710	17015	ST PAUL IS	01 08 897	J M MACOUN		US 338561
1873	83	0	4		14	38	5710	17015	ST PAUL IS	29 06 914	J MACOUN	93815	GH
1873	83	0	4		14	38	5710	17015	ST PAUL IS	07 890	W PALMER	556	US 328007
1873	83	0	4		14	38	5710	17015	ST PAUL IS	02 07 890	W PALMER	424	US 327983
1873	83	0	4		14	38	5710	17015	ST PAUL IS	21 06 890	W PALMER	353	US 327984
1873	83	0	4		14	38	5710	17015	ST PAUL IS	08 893	C H TOWNSEND		US 219257
1873	83	0	4		14	38	5710	17015	ST PAUL IS	879	R WHITE		GH
1873	83	0	4		14	38	5710	17015	ST PAUL IS	912	A G WHITNEY		US 423250
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	15 07 899	F V COVILLE	2087	US 373515
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	15 07 899	S COVILLE	2087	A
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	15 07 899	F V COVILLE	2087	US 373514
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	13 07 966	V L HARMS	5554	ALA 32673
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	30 06 966	V L HARMS	5336	ALA 32662
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	01 07 966	V L HARMS	5357	ALA 32664

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	14 07 966	V L HARMS	5575	ALA 32674
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	14 07 966	V L HARMS	5576	ALA 32675
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	18 07 966	V L HARMS	5649	ALA 32678
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	30 06 966	V L HARMS	5336	GWA
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	01 07 966	V L HARMS	5357	GWA
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	14 07 966	V L HARMS	5575	GWA
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	16 07 966	V L HARMS	5649	GWA
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	30 06 966	V L HARMS	5336	GWA
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	09 08 957	D P KLEIN	133	ALA 6668
1873	83	0	4		14	56	6024	17238	ST MATTHEW IS	08 08 957	D P KLEIN	129	ALA 6667
1873	83	0	4		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	110	ALA 29417
1873	83	0	4		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	099	ALA 29382
1873	83	0	4		14	93	6342	17029	SAVOONGA	07 11 933	O W GEIST	104	ALA 29416
1873	83	0	4		14	93	6342	17029	SAVOONGA	17 07 931	O GEIST		NY
1873	83	0	4		14	93	6330	17030	ST LAWRENCE IS	10 07 931	H MASON		US 1789435
1873	83	0	4		14	93	6330	17030	ST LAWRENCE IS	10 07 931	H L MASON	6101	GH
1873	83	0	4		14	93	6330	17030	ST LAWRENCE IS	10 07 931	H MASON	6101	NY
1873	83	0	4		14	111	6459	16801	KING ISLAND	15 06 968	R PEGAU	4168	GWA
1873	83	0	4		14	111	6545	16855	LTL DIOMEDE IS	14 08 926	A E PORSILD	16768	US 1789736
1873	83	0	4		14	111	6536	16805	CA PRINCE WALE	26 07 924	L F RYNNING	1070	ALA 2029
87	BARCLAYI												
1873	87				01	36	5251	11746	MEDICINE L	07 941	E SCAMMAN	2521	ALA 14755
1873	87				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6758	GWA
1873	87				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6759	GWA
1873	87				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6752	GWA
1873	87				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6753	GWA
1873	87				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6757	GWA
1873	87				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6769	GWA
1873	87				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6768	GWA
1873	87				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6766	GWA
1873	87				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6755	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6714	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6701	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6702	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6703	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6704	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6705	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6700	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6715	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6699	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6729	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6738	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6737	GWA
1873	87				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6732	GWA
1873	87				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6783	GWA
1873	87				02	002	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6808	GWA
1873	87				02	16	5831	12434	SUMMIT PASS	19 07 943	H M RAUP	10663	ALA 19871
1873	87				02	16	5831	12434	SUMMIT PASS	19 07 943	H M RAUP	10666	ALA 19873
1873	87				02	049	5320	12245	PRINCE GEORGE.	7 6 967	G W ARGUS	6080	GWA
1873	87				02	049	5320	12245	PRINCE GEORGE.	7 6 967	G W ARGUS	6081	GWA
1873	87				02	049	5320	12245	PRINCE GEORGE.	7 6 967	G W ARGUS	6076	GWA
1873	87				02	80	4926	11946	APEX MT	19 07 953	J A CALDER	10763	ALA 11810
1873	87				7	307	6331	12840	JUNE LAKE	2 8 967	W J CODY	17300	DAO 58179
1873	87				07	339	6205	12735	BRINTNELL LAKE	23 06 939	H M RAUP	9259	ALA 14778
1873	87				12	30	6257	13009	ITSI RANGE	31 07 960	J A CALDER	27719	GWA
1873	87				12	35	6140	13230	CANOL RD MI 77	3 7 944	A E PORSILD	10273	CAN 48302
1873	87				12	35	6120	13300	ROSE R	03 07 944	A E PORSILD	10075	TSC 255982
1873	87				12	35	6130	13302	UPPER ROSE R	18 07 944	A E PORSILD	10499	TSC 255976
1873	87				12	35	6145	13305	ROSE RIVER	15 7 944	A E PORSILD	10561	CAN 48299
1873	87				12	39	6058	13829	KLUANE L	25 07 944	J P ANDERSON	9494	TSC 255977
1873	87				12	39	6057	13825	KLUANE L	18 07 944	H M RAUP	12583	ALA 19874
1873	87				12	40	6004	13715	HAINES RD M95	12 06 948	H M RAUP	13116	ALA 19867
1873	87				12	40	6004	13715	HAINES RD M 95	12 06 948	H M RAUP	3115	ALA 19868
1873	87				12	40	6004	13715	HAINES RD M 95	12 06 948	H M RAUP	3115	GWA 19868
1873	87				12	41	6043	13503	WHITEHORSE	31 07 944	J P ANDERSON	9605	TSC 256713
1873	87				12	41	6043	13503	WHITEHORSE	28 07 944	A E PORSILD	10662	TSC 256711
1873	87				12	43	6005	13040	RANCHERIA	22 08 966	G W ARGUS	6019	GWA
1873	87				12	43	6005	13040	RANCHERIA	22 08 966	G W ARGUS	6016	GWA
1873	87				12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5055	GWA
1873	87				12	44	6002	12835	WATSON LAKE	03 08 943	H M RAUP	10966	ALA 19872
1873	87				14	3	5555	13001	HYDER	28 06 939	J P ANDERSON	5445	TSC 256015
1873	87				14	006	5628	13223	WRANGELL. MI.	21 7 967	G W ARGUS	6843	GWA
1873	87				14	006	5648	13258	PETERSBURG.	19 4 967	G W ARGUS	6835	GWA
1873	87				14	006	5648	13258	PETERSBURG.	19 4 967	G W ARGUS	6836	GWA
1873	87				14	006	5637	13250	PETERSBURG.	19 7 967	G W ARGUS	6833	GWA
1873	87				14	006	5637	13234	PETERSBURG. MI	18 7 967	G W ARGUS	6830	GWA
1873	87				14	006	5637	13234	PETERSBURG. MI	18 7 967	G W ARGUS	6829	GWA
1873	87				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6512	GWA
1873	87				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6507	GWA
1873	87				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6518	GWA
1873	87				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6504	GWA
1873	87				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6455	GWA
1873	87				14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6482	GWA
1873	87				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6450	GWA
1873	87				14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6443	GWA
1873	87				14	010	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6431	GWA
1873	87				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6375	GWA
1873	87				14	010	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6383C	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	87				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6377	GWA
1873	87				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6366	GWA
1873	87				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6359	GWA
1873	87				14	11	5825	13432	MENDENHALL GL	07 06 940	J P ANDERSON	6226	ALA 500
1873	87				14	11	5818	13424	JUNEAU	08 08 917	J P ANDERSON	413	ISC 85662
1873	87				14	11	5825	13432	MENDENHALL GL	31 05 925	J P ANDERSON	2816	ISC 255980
1873	87				14	11	5825	13432	MENDENHALL GL	07 06 940	J P ANDERSON	6226	ISC 256031
1873	87				14	11	5825	13432	MENDENHALL GL	24 06 917	J P ANDERSON	405	ISC 85663
1873	87				14	11	5823	13440	JUNEAU.	13 6 967	G W ARGUS	6103	GWA
1873	87				14	11	5823	13440	JUNEAU	13 6 967	G W ARGUS	6102	GWA
1873	87				14	11	5823	13440	JUNEAU.	13 6 967	G W ARGUS	6104	GWA
1873	87				14	11	5822	13436	MENDENHALL RIV	13 6 967	G W ARGUS	6106	GWA
1873	87				14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6664	GWA
1873	87				14	11	5831	13445	EAGLE RIVER. 1	10 7 967	G W ARGUS	6669	GWA
1873	87				14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6663	GWA
1873	87				14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6657	GWA
1873	87				14	11	5820	13436	DOUGLAS.	07 7 967	G W ARGUS	6600	GWA
1873	87				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6641	GWA
1873	87				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6641	GWA
1873	87				14	11	5820	13436	DOUGLAS ISLAND	07 7 967	G W ARGUS	6598	GWA
1873	87				14	11	5820	13436	DOUGLAS ISLAND	07 7 967	G W ARGUS	6599	GWA
1873	87				14	11	5820	13436	DOUGLAS ISLAND	07 7 967	G W ARGUS	6596	GWA
1873	87				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6590	GWA
1873	87				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6587	GWA
1873	87				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6585	GWA
1873	87				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6584	GWA
1873	87				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6576	GWA
1873	87				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6571	GWA
1873	87				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6570	GWA
1873	87				14	11	5831	13445	EAGLE RIVER. 1	10 7 967	G W ARGUS	6668	GWA
1873	87				14	11	5839	13413	TAKU B NUNATAK	10 08 966	R BESCHEL	15493	GWA
1873	87				14	11	5853	13420	JUNEAU	22 08 958	C HEUSSER		GWA
1873	87				14	11	5818	13424	JUNEAU	07 07 966	W ROBUCK	16	FSLC 493
1873	87				14	11	5820	13433	MENDENHALL GL	12 06 965	L A VIERECK	7623	GWA
1873	87				14	11	5826	13440	MONTANA CREEK	07 08 967	L A VIERECK	8677	GWA
1873	87				14	11	5831	13445	MTH EAGLE R	08 08 967	L A VIERECK	8687	GWA
1873	87				14	11	5831	13445	MTH EAGLE R	07 08 967	L A VIERECK	8685	GWA
1873	87				14	11	5825	13432	MENDENHALL GL	07 08 967	L A VIERECK	8640	GWA
1873	87				14	11	5825	13432	MENDENHALL GL	07 08 967	L A VIERECK	8639	GWA
1873	87				14	11	5820	13433	MENDENHALL GL	12 06 965	L A VIERECK	7623	FSLC 340
1873	87				14	23	5352	16632	UNALASKA	22 07 938	J P ANDERSON	4205	ISC 256019
1873	87				14	23	5352	16632	UNALASKA	18 06 932	W EYERDAM	888	GH
1873	87				14	23	5354	16631	DUTCH HARBOUR	07 07 907	A C VAN DYKE	29	GH
1873	87				14	23	5354	16631	DUTCH HARBOUR	30 06 907	A C VAN DYKE	117	GH
1873	87				14	23	5354	16631	DUTCH HARBOUR	29 06 907	E C VAN DYKE	106	GH
1873	87				14	23	5352	16632	UNALASKA	27 07 940	I GABRIELSON		NA
1873	87				14	23	5402	16603	AKUTAN PASS	19 06 914	J S MACOUN		A
1873	87				14	23	5352	16632	UNALASKA	20 7 971	M WILLIAMS	2912	GWA
1873	87				14	23	5352	16631	ILIULIUK LAKE	01 07 899	W JEPSON	85	US 883670
1873	87				14	23	5352	16631	ILIULIUK LAKE	01 07 899	W JEPSON	87	US 883671
1873	87				14	24	5408	16546	AKUTAN	933	O W GEIST		ALA 29710
1873	87				14	28	5520	16030	POPOF ISLAND	19 07 941	L J COLE		ISC 256006
1873	87				14	29	5515	16230	COLD BAY	28 08 958	S J HARBO	17	ALA 24753
1873	87				14	30	5618	15824	CHIGNIK	20 07 941	L J COLE		ISC 256005
1873	87				14	32	5957	15410	ALITAK	05 937	E LOOFF	170	A
1873	87				14	34	5713	15315	SHEEP ISLAND	06 963	R GORDON	2746	WIS
1873	87				14	34	5717	15331	THREE SAINTS B	05 08 963	B H NYBAKKEN	1036	GWA
1873	87				14	34	5717	15333	THREE SAINTS B	27 06 963	B H NYBAKKEN	2697	WIS
1873	87				14	34	5750	15228	KODIAK	14 08 963	B H NYBAKKEN	1058	WIS
1873	87				14	34	5747	15247	KODIAK	28 07 904	C PIPER	4602	A
1873	87				14	35	5705	15425	OLGA BAY		E LOOFF	1217	A
1873	87				14	41	5841	15700	KING SALMON	23 07 965	V L HARMS	4451	ALA 32564
1873	87				14	42	5835	15550	DUMPLING MT	29 05 967	C ESTABROOK	125	ALA 34692
1873	87				14	42	5835	15550	DUMPLING MT	29 05 967	C ESTABROOK	124	ALA 34691
1873	87				14	42	5841	15515	GROSNENOR LAKE	22 07 954	G SCHALLER	S.N.	ALA 2932
1873	87				14	42	5817	15509	BROKEN MT	06 08 954	G SCHALLER	S.N.	ALA 2980
1873	87				14	42	5817	15509	BROKEN MT	06 08 954	G SCHALLER	S.N.	ALA 2979
1873	87				14	43	5804	15304	RASPBERRY IS	11 06 945	W J EYERDAM	3708	ISC 256158
1873	87				14	43	5804	15304	RASPBERRY IS	04 07 945	W J EYERDAM	3775	ISC 256156
1873	87				14	43	5804	15304	RASPBERRY IS	10 09 946	W J EYERDAM	5282	ISC 256155
1873	87				14	43	5804	15304	RASPBERRY IS	27 06 939	W J EYERDAM	2061	A
1873	87				14	43	5802	15245	AFOGNAK ISLAND	15 06 940	I GABRIELSON		NA
1873	87				14	45	5907	13520	HAINES, MI. 6	13 7 967	G W ARGUS	6748	GWA
1873	87				14	45	5907	13520	HAINES, MI. 6	13 7 967	G W ARGUS	6749	GWA
1873	87				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6678	GWA
1873	87				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6678	GWA
1873	87				14	45	5925	13603	KLEHINI RIVER	12 7 967	G W ARGUS	6687	GWA
1873	87				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6686	GWA
1873	87				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6681	GWA
1873	87				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6680	GWA
1873	87				14	45	5928	13602	MOSQUITO LAKE.	11 7 967	G W ARGUS	6673	GWA
1873	87				14	45	5914	13529	HAINES	04 08 967	L A VIERECK	8586	GWA
1873	87				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6339	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6200	GWA
1873	87				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6338	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6244	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6243	GWA
1873	87				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6310	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6202	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6201	GWA
1873	87				14	46	5915	13830	TANIS LAKE	21 6 967	G W ARGUS	6273	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	87				14	46	5915	13830	TANIS LAKE	21 6 967	G W ARGUS	6269	GWA
1873	87				14	46	5915	13830	TANIS LAKE	21 6 967	G W ARGUS	6291	GWA
1873	87				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6337	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6237	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6242	GWA
1873	87				14	46	5955	13945	YAKUTAT BAY.	15 6 967	G W ARGUS	6178	GWA
1873	87				14	46	5955	13945	YAKUTAT BAY.	15 6 967	G W ARGUS	6182	GWA
1873	87				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6127	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6199	GWA
1873	87				14	46	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6189	GWA
1873	87				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6118	GWA
1873	87				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6119	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 06 167	G W ARGUS	6198	GWA
1873	87				14	46	5932	13940	YAKUTAT.	23 6 967	G W ARGUS	6340	GWA
1873	87				14	46	5932	13940	YAKUTAT.	23 6 967	G W ARGUS	6342	GWA
1873	87				14	46	5933	13930	SITUK RIVER.	23 6 967	G W ARGUS	6349	GWA
1873	87				14	46	5952	13945	YAKUTAT BAY	14 6 967	G W ARGUS	6159	GWA
1873	87				14	46	5952	13945	YAKUTAT BAY,	15 6 967	G W ARGUS	6168	GWA
1873	87				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6163	GWA
1873	87				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6205	GWA
1873	87				14	46	5935	13940	SITUK RIVER	10 06 966	V L HARMS	5171A	ALA 32575
1873	87				14	46	5935	13940	SITUK RIVER	09 06 966	V L HARMS	5140	ALA 32580
1873	87				14	46	5935	13940	SITUK RIVER	12 06 966	V L HARMS	5217	ALA 32570
1873	87				14	46	5935	13940	SITUK RIVER	12 06 966	V L HARMS	5233	ALA 32569
1873	87				14	46	5935	13940	SITUK RIVER	09 06 966	V L HARMS	5141	ALA 32579
1873	87				14	46	5935	13940	SITUK RIVER	09 06 966	V L HARMS	5146	ALA 32578
1873	87				14	46	5935	13940	SITUK RIVER	09 06 966	V L HARMS	5159	ALA 32577
1873	87				14	46	5935	13940	SITUK RIVER	10 06 966	V L HARMS	5204	ALA 32573
1873	87				14	46	5922	13913	DANGEROUS R	11 06 965	L A VIERECK	7616	GWA
1873	87				14	46	5930	13940	YAKUTAT	09 06 965	L A VIERECK	7596	GWA
1873	87				14	46	5924	13900	HARLEQUIN L	10 06 965	L A VIERECK	7606	GWA
1873	87				14	46	5924	13900	HARLEQUIN L	10 06 965	L A VIERECK	7607	GWA
1873	87				14	46	5922	13913	DANGEROUS R	11 06 965	L A VIERECK	7616	FSLC 331
1873	87				14	46	5924	13900	HARLEQUIN L	10 06 965	L A VIERECK	7607	FSLC 339
1873	87				14	46	5924	13900	HARLEQUIN L	10 06 965	L A VIERECK	7606	FSLC 328
1873	87				14	46	5930	13940	YAKUTAT	09 06 965	L A VIERECK	7596	FSLC 338
1873	87				14	46	5922	13913	DANGEROUS R	11 06 965	L A VIERECK	7619	FSLC 344
1873	87				14	48	5926	14620	MIDDLETON IS	09 06 956	J THOMAS	8564	US 2313000
1873	87				14	50	5959	15143	STERL HWY M139	13 06 967	L A VIERECK	8264	GWA
1873	87				14	50	5940	15128	HOMER	13 06 967	L A VIERECK	8273	GWA
1873	87				14	50	5940	15128	HOMER	13 06 967	L A VIERECK	8272	GWA
1873	87				14	57	6037	16515	NELSON ISLAND	02 07 946	J STEWART	231	NY
1873	87				14	60	6015	15859	NUSHAGAK	15 06 935	J MERTIE JR.	158	US 1632402
1873	87				14	62	6023	15118	KASILOF	09 08 949	H LUTZ	116	NA 326898
1873	87				14	62	6030	15100	SOLDOTNA	07 07 933	L PALMER	8	NA 326908
1873	87				14	62	6025	15020	SKILAK LAKE	939	A W SHARPLES		TSC 256014
1873	87				14	63	6029	14920	MOOSE PASS	01 06 941	J P ANDERSON	6468	ALA 499
1873	87				14	63	6006	14926	SEWARD	31 05 941	J P ANDERSON	6466	ALA 501
1873	87				14	63	6029	14950	COOPERS LANDG	21 06 941	J P ANDERSON	6929	TSC 256030
1873	87				14	63	6029	14950	COOPERS LANDG	21 06 941	J P ANDERSON	6931	TSC 256153
1873	87				14	63	6029	14920	MOOSE PASS	01 06 941	J P ANDERSON	6772	TSC 256150
1873	87				14	63	6029	14920	MOOSE PASS	01 06 940	J P ANDERSON	6478	TSC 256152
1873	87				14	63	6029	14920	MOOSE PASS	01 06 941	J P ANDERSON	6498	TSC 256025
1873	87				14	63	6029	14920	MOOSE PASS	01 06 941	J P ANDERSON	6467	ISC 256027
1873	87				14	63	6029	14920	MOOSE PASS	01 06 941	J P ANDERSON	6468	ISC 256028
1873	87				14	63	6029	14920	MOOSE PASS	01 06 941	J P ANDERSON	6469	TSC 256029
1873	87				14	63	6029	14920	MOOSE PASS	01 06 941	J P ANDERSON	6470	ISC 256151
1873	87				14	63	6006	14926	SEWARD	31 05 941	J P ANDERSON	6466	ISC 256023
1873	87				14	63	6008	14925	SEWARD	06 06 951	J A CALDER	5100	GWA
1873	87				14	63	6038	14835	TEBENKOF GL	27 08 935	W COOPER	281	F 824012
1873	87				14	63	6056	14710	COLUMBIA BAY	05 09 935	W COOPER	373	F 824040
1873	87				14	63	6006	14926	SEWARD	27 05 945	W J EYERDAM	3673	ISC 256157
1873	87				14	63	6045	14914	SEWARD HWY M65	29 06 967	V L HARMS	6063	ALA 34635
1873	87				14	63	6029	14920	MOOSE PASS	20 06 939	A NELSON	502	ALA
1873	87				14	63	6029	14920	MOOSE PASS	20 06 939	A NELSON	3471	ISC 256021
1873	87				14	63	6055	14940	HOPE	18 06 962	L J ROWINSKI		ALA 25672
1873	87				14	63	6003	14755	LATOCHE ISALND	15 07 957	H SHACKLETT	4396A	US 2387513
1873	87				14	63	6049	14857	PORTAGE GL RD	11 06 967	L A VIERECK	8226	GWA
1873	87				14	63	6049	14857	PORTAGE GL RD	11 06 967	L A VIERECK	8228B	GWA
1873	87				14	63	6045	14914	SEWARD HWY M65	11 06 967	L A VIERECK	8235	GWA
1873	87				14	63	6045	14914	SEWARD HWY M65	11 06 967	L A VIERECK	8234	GWA
1873	87				14	63	6032	14931	SEWARD HWY M38	12 06 967	L A VIERECK	8253	GWA
1873	87				14	63	6046	14924	SEWARD HWY M55	01 07 966	S L WELSH	5670	GWA
1873	87				14	63	6050	14858	PORTAGE	07 07 965	S L WELSH	4548	ISC 246902
1873	87				14	64	6033	14545	CORDOVA	12 06 928	Y MEXIA	2005	ALA 10199
1873	87				14	64	6033	14545	CORDOVA	10 06 940	E SCAMMAN	1598	ALA 14752
1873	87				14	68	6107	14616	VALDEZ	05 07 935	J P ANDERSON	1868	ISC 256018
1873	87				14	68	6107	14616	VALDEZ	05 07 935	J P ANDERSON	1866	ISC 256026
1873	87				14	68	6107	14616	VALDEZ	03 07 931	W SETCHELL	257	NA 326924
1873	87				14	68	6100	14500	COPPER R FLATS	960	A SHEETS	S.N.	ALA 25131
1873	87				14	68	6100	14500	COPPER R FLATS	960	A SHEETS	S.N.	ALA 25134
1873	87				14	68	6100	14500	COPPER R FLATS	960	A SHEETS	S.N.	ALA 25154
1873	87				14	68	6100	14500	COPPER R FLATS	960	A SHEETS	S.N.	ALA 25124
1873	87				14	68	6100	14500	COPPER R FLATS	960	A SHEETS	S.N.	ALA 25126
1873	87				14	68	6100	14500	COPPER R FLATS	960	A SHEETS		ALA 25132
1873	87				14	68	6112	14547	WORTHINGTON GL	01 08 967	L A VIERECK	8477	GWA
1873	87				14	68	6112	14547	WORTHINGTON GL	01 08 967	L A VIERECK	8481	GWA
1873	87				14	68	6108	14547	THOMPSON PASS	01 08 967	L A VIERECK	8488	GWA
1873	87				14	68	6112	14613	VALDEZ	02 08 967	L A VIERECK	8751	GWA
1873	87				14	68	6108	14610	VALDEZ GLACIER	09 08 957	T VIERECK	2226	GWA
1873	87				14	68	6108	14610	VALDEZ GLACIER	09 08 957	T VIERECK	8394	ALA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	87				14	69	6150	14706	GLENN HWY M128	13 06 944	J P ANDERSON	8447	GWA
1873	87				14	69	6140	14900	MATANUSKA VY	06 07 931	J P ANDERSON	869	TSC 256016
1873	87				14	69	6150	14706	GLENN HWY M128	13 06 944	J P ANDERSON	8447	TSC 256009
1873	87				14	69	6230	14900	TALKEETNA MTS	12 07 931	J P ANDERSON	1039	ALA 27307
1873	87				14	69	6230	14900	TALKEETNA MTS	12 07 931	J P ANDERSON	1037	ALA 27315
1873	87				14	69	6230	14900	TALKEETNA MTS	28 06 941	J P ANDERSON	7002	TSC 256022
1873	87				14	69	6230	14900	TALKEETNA MTS	12 07 931	J P ANDERSON	1037	TSC 256020
1873	87				14	69	6230	14900	TALKEETNA MTS	12 07 931	J P ANDERSON	1039	TSC 256017
1873	87				14	69	6230	14900	TALKEETNA MTS	28 06 941	J P ANDERSON	7004	TSC 256154
1873	87				14	69	6105	14811	HARRIMAN FIORD	21 08 935	W COOPER	187	F 824014
1873	87				14	69	6105	14811	HARRIMAN FIORD	18 08 935	W COOPER	148	F 824039
1873	87				14	69	6113	14953	ANCHORAGE	29 06 948	E LEPAGE	23371	TSC 255973
1873	87				14	69	6124	14929	BIRCHWOOD FLAT	01 06 948	E LEPAGE	23041	TSC 255975
1873	87				14	69	6104	14950	ANCHORAGE	10 07 948	E LEPAGE	23.419	TSC 255974
1873	87				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	216	ALA 5980
1873	87				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	321	ALA 5161
1873	87				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	109	ALA 5167
1873	87				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	103	ALA 5165
1873	87				14	69	6140	14900	MATANUSKA VY	940	L J PALMER	343	ALA 5162
1873	87				14	69	6149	14825	CHICKALOON CR	11 06 967	L A VIERECK	8217	GWA
1873	87				14	69	6100	14702	COLUMBIA GL	02 08 957	L VIERECK	2334	GWA
1873	87				14	69	6146	14915	PALMER	15 07 968	S L WELSH	8237	GWA
1873	87				14	69	6113	14953	ANCHORAGE	15 06 965	S L WELSH	4146	ALA 30023
1873	87				14	69	6147	14907	LTL SUSITNA CN	13 06 965	S L WELSH	4087	TSC 247227
1873	87				14	69	6147	14907	LTL SUSITNA CN	13 06 965	S L WELSH	4103	TSC 247378
1873	87				14	69	6113	14953	ANCHORAGE	15 06 965	S L WELSH	4146	TSC 246119
1873	87				14	71	6152	15433	HEAD OF BIG R.	4 7 950	W H DRURY	3979	CAN
1873	87				14	71	6152	15433	HEAD OF BIG R.	2 7 950	W H DRURY	3953	CAN
1873	87				14	71	6152	15433	HEAD OF BIG R.	2 7 950	W H DRURY	3886	CAN
1873	87				14	79	6217	15612	KUSKOKWIM R.	19 7 949	W H DRURY	2119	CAN
1873	87				14	80	6228	15350	FAREWELL	12 8 949	W H DRURY	2978	CAN
1873	87				14	81	6226	15122	CHELATNA LAKE	14 06 961	E L LITTLE, JR.	18424	GWA
1873	87				14	81	6257	15222	KUSKOKWIM R	29 07 961	L A VIERECK	5184	GWA
1873	87				14	81	6225	15125	CHELATNA LAKE	21 06 956	L A VIERECK	1024	GWA
1873	87				14	81	6257	15222	KUSKOKWIM R	10 08 961	L A VIERECK	5304	FSLC
1873	87				14	81	6257	15222	KUSKOKWIM R	05 08 961	L A VIERECK	5260	FSLC
1873	87				14	81	6257	15222	KUSKOKWIM R	21 08 961	L A VIERECK	5381	FSLC
1873	87				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1046	GWA 8418
1873	87				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1039	GWA
1873	87				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1045	GWA
1873	87				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1044	GWA
1873	87				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1039	ALA 8415
1873	87				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1045	ALA 8401
1873	87				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1046	ALA 8418
1873	87				14	83	6215	14525	GULKANA	19 06 957	G W ARGUS	1044	ALA 8417
1873	87				14	85	6307	14315	BIG TOK R BR	24 06 944	J P ANDERSON	8714	GWA
1873	87				14	85	6307	14315	BIG TOK R BR	24 06 944	J P ANDERSON	8715	GWA
1873	87				14	85	6307	14315	BIG TOK R BR	24 06 944	J P ANDERSON	8714	TSC 256008
1873	87				14	85	6307	14315	BIG TOK R BR	24 06 944	J P ANDERSON	8715	TSC 256010
1873	87				14	85	6307	14315	BIG TOK R BR	24 06 944	J P ANDERSON	8713	TSC 256007
1873	87				14	85	6312	14330	TANACROSS	19 07 957	L A SPETZMAN	722	ALA 6838
1873	87				14	86	6315	14540	MCCALLUM CR	19 06 957	G W ARGUS	1033	GWA
1873	87				14	86	6347	14547	DONNELLY DOME	29 06 957	G W ARGUS	1057	GWA
1873	87				14	86	6315	14540	MCCALLUM CREEK	19 06 957	G W ARGUS	1031	GWA 6709
1873	87				14	86	6315	14540	MCCALLUM CR	19 06 957	G W ARGUS	1033	ALA 6728
1873	87				14	86	6347	14547	DONNELLY DOME	29 06 957	G W ARGUS	1057	ALA 6739
1873	87				14	86	6315	14540	MCCALLUM CREEK	19 06 957	G W ARGUS	1031	ALA
1873	87				14	86	6347	14547	DONNELLY DOME	08 06 965	V L HARMS	3543	ALA 32639
1873	87				14	86	6347	14547	DONNELLY DOME	01 07 964	V L HARMS	2806	ALA 32646
1873	87				14	86	6320	14535	RAINBOW MT	30 06 966	C PARKER	RM20	ALA 32688
1873	87				14	86	6342	14553	RICH HWY M237	25 07 967	L A VIERECK	8338	GWA
1873	87				14	86	6305	14536	DENALI HWY M5	26 07 967	L A VIERECK	8363	GWA
1873	87				14	87	6350	14925	SAVAGE RIVER	18 06 928	Y MEXIA	2017	ALA 10196
1873	87				14	87	6308	14927	SUMMIT	27 07 967	L A VIERECK	8400	GWA
1873	87				14	88	6325	15050	WONDER LAKE	26 07 956	G W ARGUS	657	GWA
1873	87				14	88	6326	15033	MCK PK RD M67	20 06 960	A MURIE	8	GWA
1873	87				14	88	6326	15031	MCK PK RD M74	29 07 963	R RICHEY		ALA 26102
1873	87				14	88	6324	15025	MULDROW GL	13 07 956	L A VIERECK	1309	ALA 11622
1873	87				14	88	6325	15050	WONDER LAKE	08 08 958	L A VIERECK	3295	ALA 8382
1873	87				14	88	6325	15020	THOROFARE R	04 07 956	L A VIERECK	1094	ALA 11623
1873	87				14	88	6325	15050	WONDER LAKE	29 07 956	L A VIERECK	1583	ALA 11613
1873	87				14	88	6325	15020	THOROFARE R	04 07 956	L A VIERECK	1094	GWA
1873	87				14	88	6325	15050	WONDER LAKE	08 08 958	L A VIERECK	3295	GWA
1873	87				14	88	6324	15025	MULDROW GL	13 07 956	L A VIERECK	1309	GWA
1873	87				14	88	6324	15020	THOROFARE R	14 06 958	L A VIERECK	3004	GWA
1873	87				14	88	6324	15025	THOROFARE R	10 07 958	L A VIERECK	3003	GWA
1873	87				14	88	6325	15050	WONDER LAKE	04 08 958	L A VIERECK	3267	GWA
1873	87				14	88	6325	15050	WONDER LAKE	01 07 958	L A VIERECK	3128	GWA
1873	87				14	88	6325	15050	WONDER LAKE	30 06 958	L A VIERECK	3120	GWA
1873	87				14	88	6325	15035	MULDROW GL	17 06 958	L A VIERECK	3010	GWA
1873	87				14	88	6325	15035	MULDROW GL	22 07 958	L A VIERECK	3244	GWA
1873	87				14	88	6325	15035	MULDROW GL	22 06 958	L A VIERECK	3062	GWA
1873	87				14	88	6325	15035	MULDROW GL	28 07 958	L A VIERECK	3266	GWA
1873	87				14	88	6325	15035	MULDROW GL	22 06 958	L A VIERECK	3060	GWA
1873	87				14	88	6325	15050	WONDER LAKE	26 06 958	L A VIERECK	3089	GWA
1873	87				14	88	6325	15050	WONDER LAKE	07 07 958	L A VIERECK	3165	GWA
1873	87				14	88	6325	15050	WONDER LAKE	28 06 958	L A VIERECK	3104	GWA
1873	87				14	88	6325	15050	WONDER LAKE	29 07 956	L A VIERECK	1583	GWA
1873	87				14	88	6325	15035	MULDROW GL	22 06 958	L A VIERECK	3060	FSLC
1873	87				14	88	6325	15050	WONDER LAKE	04 08 958	L A VIERECK	3267	FSLC
1873	87				14	88	6325	15050	WONDER LAKE	01 07 958	L A VIERECK	3128	FSLC

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	87				14	88	6325	15050	WONDER LAKE	07 07 958	L A VIERECK	3165	FSLC
1873	87				14	88	6325	15050	WONDER LAKE	30 06 958	L A VIERECK	3120	FSLC
1873	87				14	88	6325	15035	MULDROW GL	28 07 958	L A VIERECK	3266	FSLC
1873	87				14	101	6425	14650	HARDING L	08 07 956	G W ARGUS	525	GWA
1873	87				14	101	6415	14606	SHAW CR FLATS	06 08 966	J FOOTE	8063	FSLC

89 CHAMISSONIS

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	89				7	152	6813	13554	CANOE L.	18 7 963	W J CODY	12986	DAO
1873	89				7	152	6800	13540	RICHARDSON MTS	24 08 934	A E PORSILD	7329	GWA
1873	89				7	170	6757	13627	FISH CR.	16 7 962	J A CALDER	34260	DAO
1873	89				7	170	6800	13600	RICHARDSON MTS	24 08 934	A E PORSILD	7329	CAN 47894
1873	89				7	170	6800	13600	RICHARDSON MTS	17 08 933	A E PORSILD	6781	CAN 47892
1873	89				12	4	6835	13804	SAM L. 22MI NE	8 7 970	S L WELSH	10339	BRY 91070
1873	89				14	13	5255	17255E	ATTU ISLAND	26 08 949	G LLANO	1417	US 2095301
1873	89				14	13	5255	17255E	ATTU ISLAND	26 08 949	G LLANO	1417	NA 329072
1873	89				14	93	6321	16924	MT TOM-NAME	23 07 949	W BENNINGHOF	3283	MICH
1873	89				14	93	6318	16842	NORTHEAST CAPE	13 07 899	F V COVILLE	2003	US 373479
1873	89				14	93	6320	17136	BOXER BAY	12 08 933	O W GEIST	016	ALA 29409
1873	89				14	93	6320	17136	BOXER BAY	12 08 933	O W GEIST	030	ALA 29510
1873	89				14	93	6320	17136	BOXER BAY	12 08 933	O W GEIST	032	ALA 29508
1873	89				14	93	6320	17136	BOXER BAY	12 08 933	O W GEIST	015	ALA 29509
1873	89				14	93	6321	17134	WANMAYEE CR	30 06 960	E C SAUER		CAN
1873	89				14	94	6430	16530	NOME	11 06 938	J P ANDERSON	3240	ISC 256383
1873	89				14	94	6430	16530	NOME	10 08 948	DUTILLY	23976	ISC 256384
1873	89				14	94	6430	16530	NOME	11 09 928	S J ENANDER		A
1873	89				14	94	6430	16530	NOME	15 06 954	C HELLER	1054	ALA 27074
1873	89				14	94	6437	16542	TELLER RD 14M	22 07 968	PEGAU	31968	
1873	89				14	94	6437	16542	TELLER RD 14M	22 07 968	PEGAU	31968	
1873	89				14	94	6430	16530	ANVIL MT	06 08 926	A E PORSILD	1326	CAN
1873	89				14	94	6430	16530	ANVIL MT	10 06 929	C THORNTON	606	US 1438560
1873	89				14	95	6426	16500	CAPE NOME	900	F BLAISDELL		US 423726
1873	89				14	95	6426	16500	CAPE NOME		W SETCHELL	1899	NA 328916
1873	89				14	98	6456	15442	KOKRINES	21 06 926	W B MILLER	1584	ALA
1873	89				14	98	6456	15442	KOKRINES	925	L PALMER	1584	US 1325631
1873	89				14	104	6524	14558	TWELVEMI SUMIT	15 07 967	V L HARMS	6125	ALA 34632
1873	89				14	104	6524	14558	TWELVEMI SUMIT	04 07 932	W SETCHELL	532	GH
1873	89				14	104	6524	14558	TWELVEMI SUMIT	06 07 932	W SETCHELL	550	GH
1873	89				14	104	6524	14558	TWELVEMI SUMIT	24 06 957	S SHETLER	223AF	ALA 3804
1873	89				14	104	6524	14558	TWELVEMI SUMIT	17 06 957	S SHETLER	83	ALA 3731
1873	89				14	104	6524	14558	TWELVEMI SUMIT	14 06 957	S SHETLER	12	ALA 3702
1873	89				14	104	6524	14558	TWELVEMI SUMIT	17 06 957	S SHETLER	83	GWA
1873	89				14	104	6524	14558	TWELVEMI SUMIT	25 07 964	L A VIERECK	7350	FSLC 303
1873	89				14	104	6525	14525	EAGLE SUMMIT	26 07 964	L A VIERECK	7391	FSLC 301
1873	89				14	111	6516	16622	TELLER	23 06 938	J P ANDERSON	35238	ISC 256382
1873	89				14	111	6512	16645	PORT CLARENCE	12 07 889	F V COVILLE	1878	US 373477
1873	89				14	111	6512	16645	PORT CLARENCE	12 07 889	F V COVILLE	1877	A
1873	89				14	124	6725	15007	WISEMAN	03 07 949	L JORDAL	2178	MICH
1873	89				14	124	6725	15007	WISEMAN	03 07 949	L JORDAL	2179	MICH
1873	89				14	129	6810	16540	OGOTORUK CR	22 06 959	A W JOHNSON	99	ALA 9166
1873	89				14	129	6810	16540	OGOTORUK CR	25 06 959	A W JOHNSON	152	ALA 9180
1873	89				14	129	6810	16540	OGOTORUK CR	29 06 961	R JOHNSON	73	GWA
1873	89				14	129	6810	16540	OGOTORUK CR	22 06 959	A W JOHNSON	99	GWA
1873	89				14	129	6810	16540	OGOTORUK CR	25 06 959	A W JOHNSON	162	GWA
1873	89				14	129	6810	16540	OGOTORUK CR	04 07 960	H R MELCHIOR	84	ALA 17848
1873	89				14	129	6810	16540	OGOTORUK CR	09 07 960	H R MELCHIOR	102	ALA 17759
1873	89				14	129	6805	16532	KUKPUK RIVER	15 07 963	H R MELCHIOR	531	GWA
1873	89				14	131	6847	15950	NUKA RIVER	13 07 950	L SPETZMAN	4071	NA 328908
1873	89				14	133	6822	15438	KURUPA LAKE	06 07 952	A R HODGON	7	GH
1873	89				14	134	6805	15030	ULO LAKE	06 07 963	F M CHAUVIN	73	ALA 23876
1873	89				14	134	6805	15030	ULO LAKE	06 07 963	J A FLOCK	40	ALA 21744
1873	89				14	139	6917	14600	CANNING RIVER	28 07 947	R MCGREGOR	S.N.	MICH
1873	89				14	139	6935	14445	SADLEROCHIT R	09 08 948	L SPETZMAN	1099	US 2032247

90 BARRATTIANA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	90				1	32	5317	11753	BRULE	15 07 919	J M MACOUN	119	ISC 256165
1873	90				1	36	5241	11802	MT EDITH CAVE	09 08 968	G W ARGUS	6920	GWA
1873	90				2	24	5720	12355	FAIRY LAKE	19 07 960	J A CALDER	27252	ALA 17433
1873	90				2	30	5648	12240	CYPRESS CR	21 07 935	M G HENRY	705	ISC 256167
1873	90				7	153	6833	12829	ANDERSON RIVER	10 07 965	G W SCOTTER	6926	GWA
1873	90				7	243	6511	12328	FT.FRANKLIN	27 5 928	A E PORSILD	32412	CAN 48278
1873	90				7	274	6430	12810	BOLSTEAD CR.	25 6 944	V C WYNNE-EDWARDS	8273	CAN 48381
1873	90				7	306	6310	13008	MACMILLAN PASS	31 8 944	A E PORSILD	11223	CAN 48380
1873	90				7	307	6305	12850	OGRADY L.	29 7 967	W J CODY	16994	DAO
1873	90				7	307	6340	12850	SEKWI R.	6 9 944	A E PORSILD	11841	CAN 48382
1873	90				7	339	6241	12750	GRIZZLY BEAR L	10 8 967	W J CODY	17993	DAO
1873	90				7	339	6205	12735	COLONEL MT	05 07 939	H M RAUP	9371	ALA 14761
1873	90				7	339	6205	12735	COLONEL MT	05 07 939	H M RAUP	9422	ALA 14768
1873	90				7	339	6205	12735	COLONEL MT	05 07 939	H M RAUP	9370	ALA 14762
1873	90				7	339	6205	12735	COLONEL MT	05 07 939	H M RAUP	9374	ALA 16594
1873	90				7	339	6205	12735	COLONEL MT	05 07 939	H M RAUP	9422	GWA
1873	90				7	339	6205	12735	COLONEL MT	05 07 939	H M RAUP	9370	GWA
1873	90				7	368	6120	12420	S. NAHANNI R.	2 7 970	G W SCOTTER	12597	GWA
1873	90				12	30	6252	13015	ITSI RANGE,NW	22 8 944	A E PORSILD	11386	CAN 48430
1873	90				12	31	6205	12825	LTL.HYLAND R.	23 6 963	P M YOUNGMAN	408	CAN 279643
1873	90				12	32	6102	13832	SHEEP MT.	6 8 967	J A NEILSON	1347	CAN 313087
1873	90				12	32	6146	13837	PTARMIGAN HRT	18 07 948	H M RAUP	13781	ALA 19858
1873	90				12	32	6149	13835	PTARMIGAN HRT.	18 7 948	H M RAUP	13781	CAN 275688

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	90				12	35	6130	13302	CANOL RD MI 98	12 7 944	A F PORSILD	11899	CAN 48427
1873	90				12	35	6120	13300	ROSE R.	3 7 944	A F PORSILD	10272	CAN 48433
1873	90				12	35	6130	13302	UPPER ROSE R.	11 7 944	A F PORSILD	10362	CAN 48429
1873	90				12	35	6140	13302	CANOL RD MI105	10 6 944	A F PORSILD	9293	CAN 48426
1873	90				12	35	6145	13258	ROSE LAPIE R	10 06 944	A F PORSILD	9293	ISC 256160
1873	90				12	35	6145	13258	ROSE LAPIE R	10 06 944	A F PORSILD	9294	GH
1873	90				12	35	6130	13302	UPPER ROSE R	11 07 944	A F PORSILD	10362	GH
1873	90				12	39	6055	13843	SLIMS RIVER	21 06 966	D F MURRAY	406	GWA
1873	90				12	39	6055	13843	SLIMS RIVER	21 06 966	D F MURRAY	409	GWA
1873	90				12	39	6049	13844	OBSERVATION MT	06 07 966	D F MURRAY	561	GWA
1873	90				12	39	6057	13825	KLUANE LAKE	18 07 944	H M RAUP	12585	ALA 19911
1873	90				12	39	6057	13825	KLUANE LAKE	18 07 944	H M RAUP	12585	GWA
1873	90				12	41	6022	13551	LITTLE ATLIN L	19 08 943	H M RAUP	11396	ALA 19912
1873	90				12	42	6030	13300	CANOL RD MI 10	30 7 944	A F PORSILD	11037	CAN 48431
1873	90				12	42	6034	13302	CANOL RD M10	30 07 944	A F PORSILD	11037	GH
1873	90				14	65	6100	14139	CHITINA R.	14 6 925	H M LAING	217	CAN 48439
1873	90				14	68	6112	14539	GLENN HWY M128	15 06 944	J P ANDERSON	8483	ISC 256162
1873	90				14	71	6153	15421	HEAD OF BIG R.	12 7 950	W H DRURY	4251	CAN
1873	90				14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4215	CAN
1873	90				14	85	6349	14109	DIVIDE MT.	29 6 963	L A SPETZMAN	4973	CAN 299614
1873	90				14	86	6306	14639	MACCLAREN R	21 07 967	L A VIERECK	8390	GWA
1873	90				14	87	6350	14925	SAVAGE R	19 06 928	Y MEXIA	2019	ALA 10208
1873	90				14	87	6239	14932	TEKLANIKA R	27 06 939	A NELSON	3584	ALA 503
1873	90				14	87	6239	14932	TEKLANIKA R	28 08 939	A NELSON	4256	ALA 504
1873	90				14	87	6239	14932	TEKLANIKA R	27 06 939	A NELSON	3584	ISC 256114
1873	90				14	87	6343	14915	MT MCKINLEY PK	13 06 937	E SCAMMAN	596	GWA
1873	90				14	88	6325	15020	MT EIELSON	22 07 956	G W ARGUS	646	GWA
1873	90				14	88	6325	15020	MT EIELSON	22 07 956	G W ARGUS	644	GWA
1873	90				14	88	6330	15050	TOKLAT RIVER	28 07 956	G W ARGUS	690	GWA
1873	90				14	88	6328	15011	STONY CREEK	28 07 967	J FOOTE	LV8424	GWA
1873	90				14	88	6326	15012	MCK PK RD M63	27 06 962	R RICHEY		ALA 26099
1873	90				14	88	6325	15020	MT EIELSON	14 08 947	E SCAMMAN	4990	GWA
1873	90				14	88	6325	15015	MCK PK RD M64	03 07 959	L SCHENE		ALA 25318
1873	90				14	88	6325	15020	MT EIELSON	15 07 956	L A VIERECK	1361A	ALA 11625
1873	90				14	88	6325	15020	MT EIELSON	10 07 956	L A VIERECK	1214	ALA 3500
1873	90				14	88	6325	15029	THOROFARE R	04 07 956	L A VIERECK	1096A	ALA 11621
1873	90				14	88	6330	15050	TOKLAT RIVER	18 08 956	L A VIERECK	1793	ALA 11596
1873	90				14	88	6325	15030	THOROFARE R	02 08 964	L A VIERECK	7417	FSLC 293
1873	90				14	88	6330	15050	TOKLAT RIVER	22 07 965	S L WELSH	4859	ISC 247203
1873	90				14	124	6725	15007	WISEMAN	01 08 939	J P ANDERSON	5878	ALA 27501
1873	90				14	124	6725	15007	WISEMAN	01 08 939	J P ANDERSON	5878	ISC 256163
1873	90				14	124	6725	15007	WISEMAN	01 08 940	E SCAMMAN	2233	GH
1873	90				14	137	6836	14345	SHEENJEK R	30 07 956	G P SCHALLER	164	WTS
1873	90				14	138	6923	14339	JAGO RIVER	13 07 957	J F CANTLON	57911	GH
1873	90				14	138	6926	14347	JAGO LAKE	28 07 957	J F CANTLON	571558	GH
1873	90				14	139	6920	14500	LAKE PETERS	14 7 948	L A SPETZMAN	674	CAN 212062
1873	90				14	139	6928	14617	SHUBLICK:S SPR	11 08 947	L A SPETZMAN	443	ISC 256161
1873	90				14	140	6925	14910	SADLEROCHIT R.	26 7 948	L A SPETZMAN	836	CAN 212063

92 PHLEBOPHYLLA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	92				7	135	6920	13300	KITTIGAZUIT	24 07 927	A F PORSILD	2469	GWA
1873	92				7	135	6930	13347	RICHARDS IS	24 07 966	G W SCOTTER	10116	GWA
1873	92				7	152	6813	13547	CANOE LAKE	20 06 964	J A LARSEN		GWA
1873	92				7	152	6836	13403	REINDEER STA.	16 06 964	J A LARSEN	7023	GWA
1873	92				7	152	6839	13406	REINDEER STA.	03 08 965	G W SCOTTER	6974	GWA
1873	92				7	152	6836	13403	REINDEER STA.	02 08 965	G W SCOTTER	6970	GWA
1873	92				7	170	6745	13601	HORNE L.	5 7 962	J A CALDER	33883	DAO
1873	92				12	2	6911	13907	BUCKLAND HILLS	1 7 970	S L WELSH	10150	OTF 1192
1873	92				12	2	6933	13854	HERSCHL IS	05 07 959	R WOOD	140	CAN 258920
1873	92				12	4	6826	13848	SAM L. 6MI NW	30 6 970	S L WELSH	10067	BRY 91021
1873	92				12	5	6740	14000	OLD CROW R	26 06 926	M F MURIE	S.N.	ALA 540
1873	92				12	15	6404	13925	DAWSON	06 914	M MILVAIN		A
1873	92				12	44	6002	12835	WATSON L		H M RAUP	11010	CAN
1873	92				14	39	5839	16054	HAGEMEISTER IS	21 08 953	E MULLAR	1291	US 2176420
1873	92				14	41	5841	15639	KING SALMON	03 07 952	W SCHOFIELD	1955	GH
1873	92				14	42	5835	15551	DUMPLING MT	20 06 966	C ESTEBROOK	48	ALA 32683
1873	92				14	51	5941	15551	WONDER LAKE	18 07 951	E MULLAR	771	US 2176392
1873	92				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1811	CAN
1873	92				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1810	CAN
1873	92				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1809	CAN
1873	92				14	72	6146	15808	CANOE MT.	6 7 949	W H DRURY	1808	CAN
1873	92				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1563	CAN
1873	92				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1564	CAN
1873	92				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1565	CAN
1873	92				14	73	6137	15930	ANIAK REGION	18 6 949	W H DRURY	1557	CAN
1873	92				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1465	CAN
1873	92				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1561	CAN
1873	92				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1555	CAN
1873	92				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1559	CAN
1873	92				14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1560	CAN
1873	92				14	79	6259	15604	TAKOTNA	25 07 941	J P ANDERSON	7378	ALA 541
1873	92				14	79	6259	15604	TAKOTNA	25 07 941	J P ANDERSON	7378	ISC 256255
1873	92				14	79	6257	15630	GANES ROAD	12 9 949	W H DRURY	3453	CAN
1873	92				14	79	6259	15622	YANKEE CREEK	03 07 940	E SCAMMAN	1828	ALA 8373
1873	92				14	79	6259	15622	YANKEE CREEK	03 07 940	E SCAMMAN	1828	GWA
1873	92				14	81	6240	15230	KUSKOKWIM R	01 08 961	L A VIERECK	5227	FSLC
1873	92				14	85	6340	14213	MT FAIRPLAY	30 06 954	S G SMITH	24398	ALA 10730
1873	92				14	86	6338	14450	HORN RIDGE	25 06 957	L SPETZMAN	132	US 2349537
1873	92				14	87	6351	14858	HEALY	23 07 939	J P ANDERSON	5773	ISC 256256

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	92				14	89	6315	15442	NIXON MINES	4 9 949	W H DRURY	3346	CAN
1873	92				14	89	6315	15442	NIXON MINES	4 9 949	W H DRURY	3345	CAN
1873	92				14	91	6352	16047	UNALAKLEET	06 921	L J PALMER	231	ALA 2026
1873	92				14	93	6322	17117	POWOOILIAK	933	O W GEIST	S.N.	ALA 29722
1873	92				14	93	6322	17117	POWOOILIAK	17 08 933	O W GEIST	S.N.	ALA 29781
1873	92				14	93	6336	17026	MT ATUK	17 07 933	O W GEIST		ALA 29711
1873	92				14	93	6330	17100	ST LAWRENCE IS	933	O W GEIST	S.N.	ALA 29738
1873	92				14	93	6342	17029	ST LAWRENCE IS	933	O W GEIST		ALA 29423
1873	92				14	93	6320	17136	BOXER BAY	27 06 933	O W GEIST	208	ALA 29421
1873	92				14	93	6320	17136	BOXER BAY	27 06 933	O W GEIST	207	ALA 29420
1873	92				14	93	6320	17136	BOXER BAY	12 08 933	O W GEIST	031	ALA 29418
1873	92				14	93	6334	17053	KANGEE	933	O W GEIST		ALA 29783
1873	92				14	93	6319	17127	SW CAPE	08 933	O W GEIST		ALA 29782
1873	92				14	93	6320	17136	BOXER BAY	27 06 960	E G SAUER	S.N.	WIS
1873	92				14	94	6430	16525	NOME	11 06 938	J P ANDERSON	3238	ISC 258262
1873	92				14	94	6435	16540	NOME	16 06 966	R PEGAU	W3	ALA 32707
1873	92				14	94	6435	16540	NOME	21 08 966	R PEGAU	W11	ALA 32703
1873	92				14	94	6435	16540	NOME	16 06 966	R PEGAU	W3	GWA
1873	92				14	94	6435	16520	DEXTER CREEK	07 08 965	R PEGAU	W20	GWA
1873	92				14	94	6435	16540	NOME	29 07 966	R PEGAU	W7	GWA
1873	92				14	94	6435	16540	NOME	21 08 966	R PEGAU	W11	GWA
1873	92				14	94	6448	16515	NOME RIVER	14 07 966	S L WELSH	5896	GWA
1873	92				14	95	6433	16425	DICKSON	10 08 948	J P ANDERSON	10903	ISC 256252
1873	92				14	95	6433	16302	GOLOVIN	17 06 938	J P ANDERSON	3422A	ISC 256260
1873	92				14	99	6500	15038	MANLEY HOT SPR	26 06 965	S L WELSH	4407	ISC 246969
1873	92				14	100	6453	14803	ESTER DOME	20 07 967	L A VIERECK	8308	GWA
1873	92				14	102	6438	14120	EAGLE	09 08 965	V L HARMS	4932	ALA 32636
1873	92				14	104	6530	14525	EAGLE SUMMIT	18 07 935	J P ANDERSON	2467	ISC 256246
1873	92				14	104	6530	14600	TWELVE MI SUMM	15 06 963	F M CHAUVIN	11	ALA 23890
1873	92				14	104	6530	14600	TWELVE MI SUMM	14 07 951	B KESSEL		ALA 22908
1873	92				14	104	6530	14525	EAGLE SUMMIT	20 07 947	E SCAMMAN	4761	GWA
1873	92				14	104	6530	14525	EAGLE SUMMIT	945	E SCAMMAN	3492	GWA
1873	92				14	104	6530	14525	EAGLE SUMMIT	20 07 947	E SCAMMAN	4761	GWA
1873	92				14	104	6531	14531	PORCUPINE DOME	12 07 947	E SCAMMAN	736	GWA
1873	92				14	104	6527	14526	EAGLE SUMMIT	26 06 957	G S SHELTER	250AF	ALA 3824
1873	92				14	104	6525	14630	SOURDOUGH CR	08 08 953	S G SMITH	1972	ALA 10652
1873	92				14	104	6527	14523	EAGLE CREEK	14 06 965	J TRENT	3465	ALA 30716
1873	92				14	104	6526	14524	CRIPPLE CREEK	28 06 966	J TRENT	1966	ALA 32689
1873	92				14	104	6530	14525	EAGLE SUMMIT	25 07 964	L A VIERECK	7374	FSLC000299
1873	92				14	104	6530	14525	EAGLE SUMMIT	25 07 964	L A VIERECK	7365	FSLC 297
1873	92				14	105	6505	14730	PEDRO DOME	14 07 965	G W ARGUS	577	ALA 22492
1873	92				14	105	6505	14730	PEDRO DOME	14 07 956	G W ARGUS	577	ALA 4519
1873	92				14	105	6505	14730	PEDRO DOME	14 07 956	G W ARGUS	577	GWA
1873	92				14	105	6505	14730	PEDRO DOME	14 08 966	G W ARGUS		GWA
1873	92				14	105	6512	14805	WICKERSHAM DOM	17 06 965	V L HARMS	3661	ALA 32654
1873	92				14	105	6512	14805	WICKERSHAM DOM	17 06 965	V L HARMS	3662	ALA 32581
1873	92				14	105	6512	14805	WICKERSHAM DOM	04 06 965	V L HARMS	3468	ALA 32626
1873	92				14	105	6512	14805	WICKERSHAM DOM	04 07 965	V L HARMS	3840	ALA 32600
1873	92				14	105	6503	14726	CLEARY SUMMIT	15 06 954	S G SMITH	2361	ALA 10654
1873	92				14	105	6503	14726	CLEARY SUMMIT	15 06 954	S G SMITH	2362	ALA 10731
1873	92				14	105	6519	14818	TATALINA	28 05 953	S G SMITH	1741	ALA 10732
1873	92				14	105	6503	14726	CLEARY SUMMIT	15 06 954	S G SMITH	2361	GWA
1873	92				14	105	6519	14818	TATALINA	28 05 953	S G SMITH	1741B	GWA
1873	92				14	105	6519	14818	TATALINA	28 05 953	S G SMITH	1741A	GWA
1873	92				14	105	6503	14726	CLEARY SUMMIT	24 06 961	R SPOONER	P26	ALA 19064
1873	92				14	106	6518	15100	TEXAS CREEK	13 08 961	F T DEAN	57	ALA 19083
1873	92				14	108	6425	14435	GOODPASTER R	07 07 956	A W JOHNSON	88	ALA 7094
1873	92				14	111	6537	16805	WALES	19 08 938	J P ANDERSON	4935	ISC 256259
1873	92				14	111	6516	16622	TELLER	23 06 938	J P ANDERSON	3524	ISC 256253
1873	92				14	111	6546	16855	LTL DIOMEDE IS	14 08 926	A E PORSILD	1677	US 1789737
1873	92				14	111	6512	16645	PORT CLARENCE	12 07 899	W TRELEASE	3385	A
1873	92				14	113	6654	16235	KOTZEBUE	13 08 938	J P ANDERSON	4710	ISC 253258
1873	92				14	114	6654	16038	KOBUK RIVER	15 08 950	L H JORDAL	3960	US 2030195
1873	92				14	114	6617	16153	CHORIS PEN	15 09 931	C H ROUSE	11	ALA 2557
1873	92				14	114	6617	16153	CHORIS PEN	15 09 931	C H ROUSE	11	ALA 5979
1873	92				14	124	6725	15007	WISEMAN	01 08 939	J P ANDERSON	5876	ALA 27552
1873	92				14	124	6725	15006	WISEMAN	01 08 939	J P ANDERSON	5876	ISC 256257
1873	92				14	126	6706	15815	ONION PORTAGE	24 07 967	C SCHWEGER	135	ALA 34717
1873	92				14	128	6758	16432	KIVALINA	10 08 938	J P ANDERSON	4625B	ISC 258254
1873	92				14	128	6744	16432	KIVALINA	20 06 960	A BUCKNELL	16	ALA 26577
1873	92				14	129	6816	16535	KUPUK RIVER	06 07 963	H R MELCHIOR	483	GWA
1873	92				14	130	6830	16351	IPEWIK RIVER	28 07 961	E HULTEN		US 2384889
1873	92				14	130	6848	16420	PITMEGEA RIVER	10 07 958	J W THOMPSON	S.N.	WIS
1873	92				14	133	6822	15438	UPPER KURUPA R	03 07 952	A HODGDON	8219	GH
1873	92				14	134	6805	15030	ULO LAKE	01 07 963	F M CHAUVIN	52	ALA 23891
1873	92				14	134	6812	15241	CHANDLER LAKE	25 07 956	I WIGGINS	13718	US 2264037
1873	92				14	136	6803	14500	OLD JOHN LAKE	16 08 967	S SHETLER	1190AF	ALA 4381
1873	92				14	136	6804	14503	OLD JOHN LAKE	16 08 957	S SHETLER	AF161	GWA
1873	92				14	137	6836	14345	SHEENJEK RIVER	28 06 956	G B SCHALLER	85	WIS
1873	92				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5921	GWA
1873	92				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5903	GWA
1873	92				14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5901	GWA
1873	92				14	138	6926	14347	JAGO RIVER	12 07 957	J CANTLON	57753	GH
1873	92				14	139	6920	14500	LAKE SCHRADER	07 948	P SCHOLANDER	59	US 2031803
1873	92				14	140	6914	14700	SHAVIOVIK R	05 06 947	L SPETZMAN	216A	ISC 256249
1873	92				14	140	6925	14910	SADLEROCHIT R	26 07 948	L SPETZMAN	851	US 2032121
1873	92				14	141	6923	15210	UMIAT	28 07 966	Y SUDA	26566	GWA
1873	92				14	141	6923	15210	UMIAT	28 07 966	Y SUDA	26666	GWA
1873	92				14	142	6952	15350	IKPIKPUK R	04 09 947	R F BLACK	S.N.	ISC 256247
1873	92				14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5469	GWA
1873	92				14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5658	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	92				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5474	GWA
1873	92				14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5411	GWA
1873	92				14	146	7038	16002	WAINWRIGHT	25 06 949	G LLANO	76A	US 2095283
1873	92				14	147	7030	15730	MEADE RIVER PO	16 07 966	G W ARGUS	5282	GWA
1873	92				14	147	7031	15722	USUKTUK RIVER	07 08 960	O W GEIST		ALA 29139
1873	92				14	147	7031	15722	USUKTUK RIVER	07 08 960	O W GEIST		ALA 29139
1873	92				14	147	7028	15725	MEADE RIVER	07 08 960	O W GEIST	S.N.	ALA 27870
1873	92				14	147	7031	15722	USUKTUK R	07 07 960	O W GEIST		ALA 27998
1873	92				14	147	7031	15722	USUKTUK R	07 07 960	O W GEIST	S.N.	GWA
1873	92				14	148	7049	15442	TESHEKPUK	30 08 947	R F BLACK	S.N.	TSC 256248
1873	92				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5771	GWA
1873	92				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5767	GWA
1873	92				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5769	GWA
1873	92				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5768	GWA
1873	92				14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5770	GWA
1873	92				14	151	7010	14650	BULLEN	4 8 966	G W ARGUS	5827A	GWA
1873	92				14	151	7010	14650	BULLEN	04 08 966	G W ARGUS	5833	GWA
1873	92				14	151	7001	14510	KONGANEVIK PT	12 08 965	M L HENRY	50	ALA 30405
1873	92				14	152	7005	14335	BARTER IS	07 08 966	G W ARGUS	5850	GWA
1873	92				14	152	7005	14335	BARTER IS	07 08 966	G W ARGUS	5853	GWA
1873	92				14	152	7005	14335	BARTER IS	07 08 966	G W ARGUS	5849	GWA
1873	92				14	152	7005	14335	BARTER IS	07 08 966	G W ARGUS	5861	GWA
1873	92				14	152	7005	14335	BARTER IS	26 06 951	F S BARKALOW JR.	811	TSC 258250
1873	92				14	153	7120	15640	BARROW	12 07 966	G W ARGUS	5172	GWA
1873	92				14	153	7120	15640	BARROW	30 07 966	G W ARGUS	5706	GWA
1873	92				14	153	7120	15640	BARROW	30 07 966	G W ARGUS	5707	GWA
1873	92				14	153	7120	15640	BARROW	12 07 966	G W ARGUS	5171	GWA
1873	92				14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5157	GWA
1873	92				14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5156	GWA
1873	92				14	153	7123	15629	PT BARROW	11 06 88	MURDOCK	97	GH
1873	92				14	153	7123	15629	PT BARROW	07 08 88	MURDOCK	97	GH
1873	92				14	153	7117	15648	BARROW	20 06 950	J H THOMAS	2011	ALA 6550
1873	92				14	153	7117	15648	BARROW	20 06 950	J H THOMAS	2011	TSC 224890
1873	92				14	153	7115	15651	BARROW	13 07 952	G H WARD	1103	TSC 224818
1873	92				14	153	7116	15640	BARROW	04 07 952	G H WARD	1095	TSC 224914
1873	92				14	153	7115	15651	BARROW	13 07 952	G H WARD	1106	RM
1873	92				14	153	7120	15640	BARROW	04 08 952	I L WIGGINS	12920	TSC 224913
1873	92				14	153	7118	15636	BARROW	01 07 952	I L WIGGINS	12848	TSC 224873
96	POLARIS												
1873	96				02	2	5937	13628	HAINES RD M75	05 07 956	T M TAYLOR	819	DAO 32736
1873	96				02	6	5915	12945	CASSIAR	17 06 956	T M TAYLOR	372	DAO 32740
1873	96				02	16	5831	12434	SUMMIT PASS	20 07 943	H M RAUP	10697	ALA 20074
1873	96				02	16	5831	12434	SUMMIT PASS	18 07 943	H M RAUP	10647	ALA 20073
1873	96				02	16	5831	12434	SUMMIT PASS	20 07 943	H M RAUP	10702	ALA 20075
1873	96				02	16	5831	12434	SUMMIT PASS	12 06 956	T M TAYLOR	187	DAO 32739
1873	96				02	16	5831	12434	SUMMIT PASS	12 06 956	T M TAYLOR	109	DAO 32741
1873	96				02	16	5831	12434	SUMMIT PASS	12 06 956	T M TAYLOR	193	DAO 32738
1873	96				02	21	5720	12802	COLD FISH L	23 07 959	A F SZCZAWINSKI	97	DAO 32734
1873	96				02	21	5720	12802	COLD FISH L	21 07 959	A F SZCZAWINSKI	101	DAO 32735
1873	96				02	35	5530	12245	AZOUZETTA L	04 08 954	J A CALDER	14086	DAO 5770
1873	96				07	133	6935	13355	RICHARDS IS	21 07 963	W J CODY	13018	DAO 25922
1873	96				07	152	6813	13554	CANOE LAKE	18 07 963	W J CODY	12921	DAO 32707
1873	96				07	152	6813	13554	CANOE LAKE	18 07 963	W J CODY	12925	DAO 32705
1873	96				07	152	6813	13554	CANOE LAKE	18 07 963	W J CODY	12976	DAO 32706
1873	96				07	152	6813	13554	CANOE LAKE	18 07 963	W J CODY	12975	DAO 32708
1873	96				12	15	6411	14021	BIG SWEDE DOME	14 08 949	J A CALDER	4487	DAO 32730
1873	96				12	22	6358	13542	KENO HILL	30 07 967	R T PORSILD	1058	CAN 312754
1873	96				12	30	6247	13104	MT SHELDON	17 08 944	A E PORSILD	11767	GH
1873	96				12	30	6247	13104	MT SHELDON	07 08 944	A E PORSILD	11606	GH
1873	96				12	32	6149	13835	PTARMIGAN HART	16 07 948	H M RAUP	13718	ALA 20054
1873	96				12	39	6058	13829	KLUANE LAKE	24 07 944	J P ANDERSON	9410A	TSC 256474
1873	96				12	39	6045	13852	KASKAWULSH GL	25 07 967	D F MURRAY	1099	GWA
1873	96				12	39	6049	13844	OBSERVATION MT	06 07 966	D F MURRAY	560	GWA
1873	96				12	39	6057	13825	SLIMS RIVER	18 07 944	H M RAUP	12598	ALA 20072
1873	96				12	39	6057	13825	SLIMS RIVER	18 07 944	H M RAUP	12587	ALA 20071
1873	96				12	39	6057	13825	SLIMS RIVER	18 07 944	H M RAUP	12588	GWA
1873	96				12	42	6022	13351	MT WHITE	15 08 943	H M RAUP	11327	ALA 20055
1873	96				12	42	6022	13351	MT WHITE	13 08 943	H M RAUP	11239	ALA 20070
1873	96				12	151	6853	13906	MT SEDGWICK	19 07 962	J A CALDER	34440	DAO 32727
1873	96				14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6468	GWA
1873	96				14	57	6033	16525	CAPE VANCOUVER	08 08 891	J M MACOUN		GH
1873	96				14	57	6000	16600	NUNIVAK IS	22 05 930	W B MILLER	253C	ALA 2931C
1873	96				14	67	6137	14158	SKOLAI CR	21 07 967	D F MURRAY	1043	GWA
1873	96				14	67	6137	14156	SKOLAI CR	21 07 967	D F MURRAY	1042	GWA
1873	96				14	67	6138	14152	RUSSELL GL	27 07 967	R W SCOTT	1919	GWA
1873	96				14	81	6240	15230	KUSKOKWIM R	02 09 961	L A VIERECK	5348	FSLC 2009
1873	96				14	81	6240	15230	KUSKOKWIM R	05 08 961	L A VIERECK	5262	FSLC 2005
1873	96				14	81	6240	15230	KUSKOKWIM R	29 07 961	L A VIERECK	5101	FSLC 2008
1873	96				14	81	6240	15230	KUSKOKWIM R	16 06 961	L A VIERECK	5034	FSLC 2006
1873	96				14	81	6240	15230	KUSKOKWIM R	15 06 961	L A VIERECK	5012	FSLC 2007
1873	96				14	84	6238	14340	UPPER COPPER R	06 07 961	E HULTEN		US 2384891
1873	96				14	86	6333	14548	RICH HWY M233	12 07 935	J P ANDERSON	2219	TSC 256245
1873	96				14	86	6318	14520	GULKANA GL	19 07 957	L A VIERECK	2175	ALA 8407
1873	96				14	86	6318	14520	GULKANA GL	19 07 957	L A VIERECK	2175	GWA
1873	96				14	86	6305	14536	DENALI HWY M5	26 07 967	L A VIERECK	8361	GWA
1873	96				14	86	6305	14536	DENALI HWY M5	26 07 967	L A VIERECK	8361	GWA
1873	96				14	86	6305	14545	DENALI HWY M12	04 08 951	T J WEBSTER	212	DAO 32732
1873	96				14	86	6305	14545	DENALI HWY M12	04 08 951	T J WEBSTER	212	US 2331312

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	96				14	87	6334	14939	MCK PK RD M36	08 07 939	A NELSON	3719	ALA 538
1873	96				14	87	6334	14939	MCK PK RD M36	08 07 939	A NELSON	3719	ISC 256475
1873	96				14	87	6324	14857	CANTWELL	10 07 927	L J PALMER	1963	ALA 5197
1873	96				14	87	6335	14843	CARLO MT	30 07 967	L A VIERECK	8413	GWA
1873	96				14	87	6335	14843	CARLO MT	30 07 967	L A VIERECK	8413	GWA
1873	96				14	87	6324	14735	W FK GLACIER	24 08 956	L A VIERECK	1819	GWA
1873	96				14	88	6328	15010	HIGHWAY PASS	21 07 956	G W ARGUS	623	GWA
1873	96				14	88	6328	15010	HIGHWAY PASS	03 07 954	G M FROHNE	54311	ALA 21765
1873	96				14	88	6325	15020	CAMP EIELSON	14 08 947	E SCAMMAN	4991	GWA
1873	96				14	88	6325	15015	MCK PK RD M64	03 07 959	L SCHENE	S.N.	ALA 25319
1873	96				14	88	6330	15015	STONY CR	23 07 959	L SCHENE		ALA 25316
1873	96				14	88	6325	15020	CAMP EIELSON	08 07 956	L A VIERECK	1127A	ALA 3499
1873	96				14	88	6318	15018	MULDROW GL	17 07 956	L A VIERECK	1389	ALA 11616
1873	96				14	88	6318	15018	MULDROW GL	17 07 956	L A VIERECK	1389	GWA
1873	96				14	88	6331	15004	TOKLAT	22 07 965	S L WELSH	4854	ISC 247208
1873	96				14	93	6325	17130	ST LAWRENCE IS	933	O W GEIST	S.N.	ALA 29734
1873	96				14	93	6325	17130	ST LAWRENCE IS	933	O W GEIST		ALA 29716
1873	96				14	93	6320	17136	BOXER BAY	20 07 960	E G SAUER		WIS
1873	96				14	104	6530	14530	EAGLE SUMMIT	21 07 951	B KESSEL	6	ALA 22927
1873	96				14	104	6530	14530	EAGLE SUMMIT	02 07 937	E SCAMMAN	736A	ALA 8391
1873	96				14	104	6532	14525	BONANZA CR	16 07 949	E SCAMMAN	5275	GH
1873	96				14	104	6530	14530	EAGLE SUMMIT	25 07 936	E SCAMMAN	120	GH
1873	96				14	104	6524	14559	TWELVE MI SUM	14 06 957	S G SHETLER	26AF	ALA 3706
1873	96				14	111	6516	16622	TELLER	06 08 949	E SCAMMAN	5455	GH
1873	96				14	111	6520	16629	TELLER	09 09 901	F A WALPOLE	2056	US 379175
1873	96				14	123	6736	14940	WIEHL MT	29 06 962	R BROCKMAN		ALA 28442
1873	96				14	137	6836	14345	SHEENJEK R	10 07 956	B KESSEL	S150	ALA 5046
1873	96				14	137	6836	14345	SHEENJEK R	10 07 956	B KESSEL	S150	GWA
1873	96				14	138	6926	14347	JAGO LAKE	23 07 957	J F CANTLON	571305	GH
98	NOVAE-ANGLIAE												
1873	98				1	9	5857	11355	CARIBOU MTS	29 06 930	H M RAUP	2154	NY
1873	98				1	34	5343	11313	DAVIS L	22 05 947	G H TURNER	5473	WIS
1873	98				1	37	5245	11748	ATHABASCA RIVE	11 08 968	G W ARGUS	6935	GWA
1873	98				1	44	5007	11439	OYSTER CR	962	R T OGILVIE	P6214	GWA
1873	98				2	16	5851	12506	RACING R	16 06 960	J A CALDER	25460	ALA 17429
1873	98				2	16	5831	12434	SUMMIT PASS	19 07 943	H M RAUP	10661	ALA 19864
1873	98				2	16	5847	12500	MACDONALD CR	25 06 968	S L WELSH	7327	GWA
1873	98				2	24	5714	12243	SIKANNI R	01 07 943	H M RAUP	10358	ALA 19846
1873	98				2	24	5714	12243	SIKANNI R	01 07 943	H M RAUP	10357	ALA 19845
1873	98				2	24	5714	12243	SIKANNI R	02 07 943	H M RAUP	10411	ALA 19848
1873	98				2	24	5705	12235	BEATTON R	23 06 943	H M RAUP	10263	ALA 19870
1873	98				2	24	5705	12235	BEATTON R	23 06 943	H M RAUP	10261	ALA 19869
1873	98				2	24	5705	12235	BEATTON R	23 06 943	H M RAUP	10261	GWA
1873	98				2	56	5210	12220	WILLIAMS LAKE	06 06 960	J A CALDER	17090	GWA
1873	98				2	64	5130	12045	BRIDGE LAKE PO	25 05 956	J A CALDER	16693	GWA
1873	98				2	72	5050	12140	PAVILION LAKE	22 05 956	J A CALDER	16592	GWA
1873	98				2	74	5049	11616	BRISCO	22 05 958	R L TAYLOR	714	GWA
1873	98				2	79	4930	12030	PRINCETON	17 06 960	J A CALDER	17519	GWA
1873	98				7	307	6303	12855	OGRADY LAKE	28 7 967	W J CODY	16867	DAO 58180
1873	98				7	338	6222	12842	SELWYN MTS.	9 8 967	W J CODY	17868	DAO 58181
1873	98				7	338	6202	12810	FLAT RIVER	8 8 967	W J CODY	17714	DAO 58177
1873	98				7	345	6227	11422	YELLOWKNIFE	16 06 949	W J CODY	2144	WIS
1873	98				7	367	6125	12636	S. NAHANNI R.	3 7 970	G W SCOTTER	12773	GWA
1873	98				7	369	6158	12325	CLI LAKE	11 8 961	W J CODY	12304	DAO 58184
1873	98				7	391	6046	11635	MACK HWY M24	10 07 959	J THIERT	5135	GH 1502781
1873	98				12	11	6502	13815	DEMPSTERHWYM75	15 07 964	E HULTEN		GWA
1873	98				12	15	6404	13925	DAWSON	12 07 902	J M MACOUN	5445	GH
1873	98				12	32	6120	13910	ALA HWY M1101	21 08 966	G W ARGUS	6013	GWA
1873	98				12	32	6128	13917	ALA HWY M1110	28 07 966	S L WELSH	6053	GWA
1873	98				12	40	6047	13735	PINE CR	17 06 944	H M RAUP	11784	ALA 19847
1873	98				12	40	6047	13735	PINE CR	02 06 948	H M RAUP	13022	ALA 19909
1873	98				12	40	6047	13735	PINE CR	02 06 948	H M RAUP	13035	ALA 19907
1873	98				12	40	6047	13735	PINE CR	02 06 948	H M RAUP	13036	ALA 19905
1873	98				12	40	6047	13735	PINE CR	02 06 948	H M RAUP	13038	ALA 19908
1873	98				12	40	6047	13735	PINE CR	17 06 944	H M RAUP	11801	ALA 19844
1873	98				12	40	6047	13735	PINE CR	10 06 948	H M RAUP	13059	ALA 19849
1873	96				12	40	6047	13735	PINE CR	02 06 948	H M RAUP	13029	ALA 19904
1873	98				12	40	6047	13735	PINE CR	10 06 948	H M RAUP	13058	ALA 19850
1873	98				12	40	6047	13735	PINE CR	02 06 948	H M RAUP	13037	ALA 19910
1873	98				12	40	6047	13735	PINE CR	02 06 948	H M RAUP	13030	ALA 19903
1873	98				12	40	6047	13735	PINE CR	17 06 944	H M RAUP	11801	GWA
1873	98				12	40	6047	13735	PINE CR	10 06 948	H M RAUP	13059	GWA
1873	98				12	40	6041	13736	MACKINTOSH	17 08 957	W R SCHOFIELD	8314	CAN 269641
1873	98				12	41	6043	13503	WHITEHORSE	31 07 944	J P ANDERSON	9603	ISC 256740
1873	98				12	41	6052	13537	TAKHINI R	11 06 949	J M GILLETT	3285	ISC 256140
1873	98				12	41	6051	13534	TAKHINI R	11 06 949	J M GILLETT	3279	ISC 256143
1873	98				12	41	6032	13454	COWLEY	14 06 932	W SETCHELL	332	GH
1873	98				12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5044	GWA
1873	98				12	44	6003	12840	WATSON LAKE	28 06 966	G W ARGUS	5066	GWA
1873	98				12	44	6003	12840	WATSON LAKE	28 06 966	G W ARGUS	5067	GWA
1873	98				12	44	6003	12840	WATSON LAKE	28 06 966	G W ARGUS	5065	GWA
1873	98				14	68	6148	14512	WILLOW CREEK	01 08 967	L A VIERECK	8456	GWA
1873	98				14	69	6156	14710	GLENN HWY M128	13 06 944	J P ANDERSON	8446	ISC 256742
1873	98				14	69	6148	14730	GLENN HWY M113	15 07 948	J P ANDERSON	10674	ISC 256137
1873	98				14	69	6156	14710	GLENN HWY M128	13 06 944	J P ANDERSON	8446	GWA
1873	98				14	80	6230	15340	FAREWELL MT.	8 8 949	W H DRURY	3035	CAN
1873	98				14	80	6231	15354	FAREWELL	2 8 969	K M REED	853	BYU 86614
1873	98				14	83	6224	14504	TULSONA CREEK	08 08 960	L A SPETZMAN	4489	CAN 299627

Specimens Cited

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	98				14	83	6216	14522	GULKANA BRIDGE	10 06 967	L A VIERECK	8207	GWA
1873	98				14	85	6323	14321	TANACROSS	27 06 944	J P ANDERSON	8794	ISC 256744
1873	98				14	85	6323	14321	TANACROSS	14 08 960	L A SPETZMAN	4545	CAN 299621
1873	98				14	87	6350	14925	SAVAGE RIVER	18 06 928	Y MEXIA	2018	GH
1873	98				14	87	6350	14925	SAVAGE RIVER	18 06 928	Y MEXIA	2018	NY
1873	98				14	87	6350	14925	SAVAGE RIVER	18 06 928	Y MEXIA	2017	NY
1873	98				14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1010	ALA 6711
1873	98				14	100	6452	14752	UNIV EXP FARM	22 06 956	G W ARGUS	425	ALA 45
1873	98				14	100	6453	14750	COLLEGE	07 07 966	G W ARGUS	5112	GWA
1873	98				14	100	6453	14750	COLLEGE	09 06 957	G W ARGUS	1010	GWA
1873	98				14	100	6453	14750	COLLEGE	07 07 966	G W ARGUS	5111	GWA
1873	98				14	100	6448	14755	CHENA PUMP RD	22 06 956	G W ARGUS	421	GWA
1873	98				14	100	6453	14751	SMITH LAKE	10 08 956	G W ARGUS	778	GWA
1873	98				14	100	6453	14751	SMITH LAKE	14 06 956	G W ARGUS	312	GWA
1873	98				14	100	6430	14905	NENANA	19 06 965	V L HARMS	3721	ALA 32584
1873	98				14	100	6453	14750	COLLEGE	14 06 965	V L HARMS	3621	ALA 32566
1873	98				14	100	6448	14744	FAIRBANKS	20 06 927	L J PALMER	1768	ALA 5187
1873	98				14	100	6448	14744	FAIRBANKS	06 933	L J PALMER	175	ALA
1873	98				14	100	6430	14905	NENANA	03 07 932	W SETCHELL	515	NY
1873	98				14	100	6439	14825	WHISKEY IS	16 06 965	L A VIERECK	7643	FSLC
1873	98				14	100	6448	14744	FAIRBANKS	19 05 965	L A VIERECK	7537	FSLC
1873	98				14	100	6452	14752	UNIV EXP FARM	17 06 964	L A VIERECK	7189	FSLC 312
1873	98				14	100	6444	14805	ROSIE CR	08 09 966	L A VIERECK	8126	GWA
1873	98				14	100	6444	14805	ROSIE CR	10 07 966	L A VIERECK	8042	GWA
1873	98				14	100	6444	14805	ROSIE CR	11 07 966	L A VIERECK	8049	GWA
1873	98				14	100	6443	14809	SAM CHARLEY IS	08 07 966	L A VIERECK	8033	GWA
1873	98				14	100	6443	14809	SAM CHARLEY IS	12 06 966	L A VIERECK	7934	GWA
1873	98				14	100	6443	14713	MOOSE CREEK	16 06 966	L A VIERECK	7943	GWA
1873	98				14	100	6450	14915	MINTO	24 06 965	L A VIERECK	7648	GWA
1873	98				14	100	6438	14909	MINTO	27 06 965	L A VIERECK	7672	GWA
1873	98				14	101	6412	14506	SHAW CR FLATS	22 06 966	L A VIERECK	7948	GWA
1873	98				14	101	6401	14545	JARVIS CREEK	04 07 968	S L WELSH	7831	GWA
1873	98				14	102	6410	14147	FRANKLIN	13 07 941	J P ANDERSON	7221	ISC 256724
1873	98				14	104	6550	14404	CIRCLE	18 06 932	W SETCHELL	385	GH
1873	98				14	104	6550	14404	CIRCLE	10 08 963	L A SPETZMAN	4967	CAN 299622
1873	98				14	104	6557	14408	YUKON R	09 07 965	L A VIERECK	7704	GWA
1873	98				14	104	6557	14408	YUKON R	09 07 965	L A VIERECK	7705	GWA
1873	98				14	105	6532	14833	LIVENGOOD	08 07 944	J P ANDERSON	8969	ISC 256726

101 1 BRACHYCARPA SSP. BRACHYCARPA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	101	1			1	41	5150	11637	WATERFOWL LAKE	05 08 968	G W ARGUS	6877	GWA
1873	101	1			2	6	5927	12912	CASSIAR ROAD	19 06 960	J A CALDER	25674	GWA
1873	101	1			2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6031	GWA
1873	101	1			2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6038	GWA
1873	101	1			2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6030	GWA
1873	101	1			2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6029	GWA
1873	101	1			2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6027	GWA
1873	101	1			2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6028	GWA
1873	101	1			2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6032	GWA
1873	101	1			2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6033	GWA
1873	101	1			2	16	5845	12540	PETERSEN CREEK	23 08 966	G W ARGUS	6029	GWA
1873	101	1			2	16	5858	12545	MUNCHO LAKE	22 06 966	G W ARGUS	7982	GWA
1873	101	1			2	16	5858	12545	MUNCHO LAKE	22 06 966	G W ARGUS	4983	GWA
1873	101	1			2	16	5858	12545	MUNCHO LAKE	22 06 966	G W ARGUS	4980	GWA
1873	101	1			2	16	5858	12545	MUNCHO LAKE	22 06 966	G W ARGUS	4981	GWA
1873	101	1			2	16	5851	12506	RACING RIVER	26 07 960	J A CALDER	27501	GWA
1873	101	1			2	16	5839	12446	MACDONALD CR	24 07 960	J A CALDER	27362	GWA
1873	101	1			2	16	5900	12544	MUNCHO LAKE	29 07 943	H M RAUP	10855	ALA 19721
1873	101	1			2	16	5900	12544	MUNCHO LAKE	29 07 943	H M RAUP	10855	GWA
1873	101	1			2	16	5900	12544	MUNCHO LAKE	29 07 943	H M RAUP	10855	GWA
1873	101	1			2	24	5030	11603	ATHALMER	02 08 953	J A CALDER	11363	GWA
1873	101	1			2	34	5541	12430	MANSON CREEK	29 07 954	J A CALDER		GWA 13670
1873	101	1			2	35	5527	12240	PINE PASS	04 08 954	J A CALDER	14084	GWA
1873	101	1			2	51	5301	11916	MT ROBSON	15 08 956	L JENKINS	7104	GWA
1873	101	1			2	55	5243	12454	ITCHA MTS	16 08 956	J A CALDER	20172	GWA
1873	101	1			2	62	5158	12430	TATLA L P.O.	27 08 960	J A CALDER	20480	GWA
1873	101	1			2	79	4955	12053	ASPEN GROVE	17 06 956	J A CALDER	17504	GWA
1873	101	1			7	241	6517	12651	NORMAN WELLS	22 7 953	W J CODY	7442	DAO 5705
1873	101	1			7	369	6158	12325	CLI LAKE	11 8 961	W J CODY	12291	DAO
1873	101	1			7	369	6152	12320	LTL DOCTOR L	08 08 961	W J CODY	12120	GWA
1873	101	1			7	369	6152	12320	LTL DOCTOR L	08 08 961	W J CODY	12124	GWA
1873	101	1			12	32	6103	13831	KLUANE LAKE	23 07 944	J P ANDERSON	9379	CAN 46736
1873	101	1			12	35	6155	13238	LOWER LAPIE R	20 06 944	A E PORSILD	9716	CAN 46764
1873	101	1			12	40	6041	13736	MACKINTOSH	18 08 957	W SCHOFIELD	8320	CAN 269645
1873	101	1			12	44	6002	12835	WATSON L	03 08 943	H M RAUP	11010	ALA 19723
1873	101	1			12	44	6002	12835	WATSON LAKE	03 08 943	H M RAUP	11011	ALA 19722
1873	101	1			12	44	6002	12835	WATSON L	03 08 943	H M RAUP	11011	GWA

101 4 BRACHYCARPA SSP. NIPHOCLADA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	101	4			2	16	5850	12532	TOAD RIVER	26 07 960	J A CALDER	27482	GWA
1873	101	4			2	16	5848	12527	TOAD RIVER	13 06 960	J A CALDER	25344	GWA
1873	101	4			2	16	5853	12526	SUMMIT PASS	28 07 943	H M RAUP	10844	ALA 19389
1873	101	4			2	16	5831	12434	SUMMIT PASS	15 07 943	H M RAUP	10592	ALA 19375
1873	101	4			2	16	5831	12434	SUMMIT PASS	15 07 943	H M RAUP	10591	ALA 19390
1873	101	4			2	16	5853	12526	SUMMIT PASS	28 06 943	H M RAUP	10844	GWA
1873	101	4			2	16	5831	12434	SUMMIT PASS	15 07 943	H M RAUP	10591	GWA
1873	101	4			2	16	5847	12500	MACDONALD CR	25 06 968	S L WELSH	7325	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	101	4			7	134	6949	12859	MICHOLSON IS	18 07 965	G W SCOTTER	6939	GWA
1873	101	4			7	134	6944	13120	ATKINSON POINT	21 07 966	G W SCOTTER	10107	GWA
1873	101	4			7	152	6812	13328	CAMPBELL LAKE	03 08 966	G W SCOTTER	10125	GWA
1873	101	4			7	153	6833	12828	ANDERSON RIVER	05 07 965	G W SCOTTER		GWA
1873	101	4			7	153	6833	12828	ANDERSON RIVER	05 07 965	G W SCOTTER	6910	GWA
1873	101	4			7	214	6628	11728	MCTAVISH ARM	30 07 948	H T SHACKLETTE	3245	GWA
1873	101	4			7	276	6452	12541	NORMAN	13 07 947	A E PORSILD	16705	GWA
1873	101	4			7	368	6137	12544	VIRGINIA FALLS	29 6 970	G W SCOTTER	12511	GWA
1873	101	4			12	1	6912	13830	KING PT	23 07 934	A E PORSILD	7173	GWA
1873	101	4			12	2	6922	13932	FIRTH R.	1 7 970	S L WELSH	10163	BRY 91102
1873	101	4			12	4	6823	13908	SAM LAKE	9 7 970	S L WELSH	10357	OTF 1204
1873	101	4			12	5	6725	14059	RAMPART HOUSE	27 06 951	J F MARTIN	77	GWA
1873	101	4			12	7	6602	13844	CATHEDRAL ROCK	29 06 960	J A CALDER	26074	GWA
1873	101	4			12	32	6103	13831	KLUANE LAKE	23 07 944	J P ANDERSON	9379	ISC 256220
1873	101	4			12	32	6103	13831	KLUANE LAKE	23 07 944	J P ANDERSON	9379	NA
1873	101	4			12	32	6122	13859	BURWASH	03 08 948	H M RAUP	13961	ALA 19940
1873	101	4			12	32	6122	13859	BURWASH	27 06 948	H M RAUP	13287	ALA 19941
1873	101	4			12	32	6122	13859	BURWASH	03 08 948	H M RAUP	13968	ALA 19935
1873	101	4			12	32	6122	13859	BURWASH	03 08 948	H M RAUP	13940	ALA 19942
1873	101	4			12	32	6103	13831	KLUANE LAKE	11 07 944	H M RAUP	12404	ALA 19939
1873	101	4			12	32	6103	13831	KLUANE LAKE	02 07 944	H M RAUP	12187	ALA 19466
1873	101	4			12	32	6122	13843	KLUANE LAKE	08 07 944	H M RAUP	12358	ALA 19388
1873	101	4			12	32	6103	13831	KLUANE LAKE	02 07 944	H M RAUP	12185	GWA
1873	101	4			12	32	6103	13831	KLUANE LAKE	11 07 944	H M RAUP	12404	GWA
1873	101	4			12	32	6108	13833	KLUANE LAKE	05 07 968	S L WELSH	7887	GWA
1873	101	4			12	35	6150	13300	ROSE LAPIE R	01 07 944	A E PORSILD	10056	ISC 256681
1873	101	4			12	35	6155	13238	LOWER LAPIE R	20 06 944	A E PORSILD	9716	ISC 256215
1873	101	4			12	35	6155	13238	LOWER LAPIE R	20 06 944	A E PORSILD	9716	GH
1873	101	4			12	35	6155	13238	LOWER LAPIE R	20 06 944	A E PORSILD	9716	NY
1873	101	4			12	35	6155	13238	LOWER LAPIE R	20 06 944	A E PORSILD	9716	US
1873	101	4			12	39	6049	13844	OBSERVATION MT	06 07 966	D F MURRAY	613	GWA
1873	101	4			12	39	6055	13843	SLIMS RIVER	29 06 967	D F MURRAY	803	GWA
1873	101	4			12	39	6059	13833	SLIMS RIVER	22 07 944	H M RAUP	12625	ALA 19565
1873	101	4			12	40	6047	13651	ALA HWY M988	29 07 946	J P ANDERSON	10332	ISC 256218
1873	101	4			12	40	6047	13738	ALSEK RIVER	24 06 944	H M RAUP	11899	ALA 19936
1873	101	4			12	40	6047	13738	ALSEK RIVER	24 06 944	H M RAUP	11902	ALA 19937
1873	101	4			12	40	6047	13738	ALSEK RIVER	24 06 944	H M RAUP	11901	ALA 19384
1873	101	4			12	40	6047	13738	ALSEK RIVER	24 06 944	H M RAUP	11900	ALA 19385
1873	101	4			12	40	6047	13738	ALSEK RIVER	24 06 944	H M RAUP	11902	GWA
1873	101	4			12	40	6047	13738	ALSEK RIVER	24 06 944	H M RAUP	11900	GWA
1873	101	4			12	40	6047	13738	ALSEK RIVER	24 06 944	H M RAUP	11901	GWA
1873	101	4			14	67	6135	14200	WRANGELL MT	31 07 967	R W SCOTT	2023	GWA
1873	101	4			14	68	6131	14426	CHITINA	07 07 935	J P ANDERSON	2012	ISC 256217
1873	101	4			14	69	6132	14914	MATANUSKA	06 07 931	J P ANDERSON	868	ALA 27348
1873	101	4			14	69	6132	14914	MATANUSKA	06 07 931	J P ANDERSON	868	ISC 256221
1873	101	4			14	69	6117	14858	MATANUSKA	18 06 965	S L WELSH	4186	ISC 246203
1873	101	4			14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4107	CAN
1873	101	4			14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4060	CAN
1873	101	4			14	71	6155	15425	HEAD OF BIG R.	9 7 950	W H DRURY	4031	CAN
1873	101	4			14	71	6155	15425	HEAD OF BIG R.	9 7 950	W H DRURY	4030	CAN
1873	101	4			14	71	6155	15430	HEAD OF BIG R.	9 7 950	W H DRURY	4029	CAN
1873	101	4			14	71	6155	15430	HEAD OF BIG R.	9 7 950	W H DRURY	4025	CAN
1873	101	4			14	71	6155	15425	HEAD OF BIG R.	7 7 950	W H DRURY	3974	CAN
1873	101	4			14	71	6155	15425	HEAD OF BIG R.	6 7 950	W H DRURY	3969	CAN
1873	101	4			14	80	6233	15336	FAREWELL MT.	8 8 949	W H DRURY	2763	CAN
1873	101	4			14	80	6233	15336	FAREWELL MT.	8 8 949	W H DRURY	2760	CAN
1873	101	4			14	80	6232	15337	FAREWELL L.	6 8 949	W H DRURY	2505	CAN
1873	101	4			14	80	6232	15337	FAREWELL L.	6 8 949	W H DRURY	2504	CAN
1873	101	4			14	80	6233	15337	FAREWELL L.	2 8 949	W H DRURY	2288	CAN
1873	101	4			14	80	6235	15338	FAREWELL L.	2 8 949	W H DRURY	2279	CAN
1873	101	4			14	80	6231	15353	FAREWELL	14 8 949	W H DRURY	2945	CAN
1873	101	4			14	81	6240	15230	KUSKOKWIM R	14 06 961	L A VIERECK	5005	FSLC
1873	101	4			14	86	6355	14656	W FK LTL DELTA	06 941	L J PALMER	552	ALA 5199
1873	101	4			14	86	6355	14656	W FK LTL DELTA	10 07 941	L J PALMER	644	ALA 5194
1873	101	4			14	86	6355	14656	W FK LTL DELTA	03 06 941	L J PALMER	552	ALA 5156
1873	101	4			14	86	6325	14545	BLACK RP GL.	16 07 957	L A VIERECK	2139	ALA 8385
1873	101	4			14	86	6324	14543	CASTNER GL	25 07 967	L A VIERECK	8351	GWA
1873	101	4			14	86	6324	14543	CASTNER GL	25 07 967	L A VIERECK	8348	GWA
1873	101	4			14	87	6340	14930	TEKLANIKA R	20 07 956	G W ARGUS	608	ALA 4751
1873	101	4			14	87	6344	14855	MCKINLEY RIVER	26 07 956	G W ARGUS	658	GWA
1873	101	4			14	87	6340	14930	TEKLANIKA R	20 07 956	G W ARGUS	608	GWA
1873	101	4			14	87	6344	14855	MCKINLEY RIVER	26 07 956	G W ARGUS	658	RM
1873	101	4			14	87	6340	14930	TEKLANIKA R	20 07 956	G W ARGUS	608	RM
1873	101	4			14	87	6351	14858	HEALY	27 08 950	D D HANSON	57	ISC 256358
1873	101	4			14	87	6351	14858	HEALY	27 08 950	D D HANSON	57	ISC 256358
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 928	Y MEXIA	2084	ALA 10197
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 926	Y MEXIA	2083	ALA 10200
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 928	Y MEXIA	2084	MIN
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 926	Y MEXIA	2083	MIN
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 928	Y MEXIA	2084	A
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 928	Y MEXIA	2084	NA
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 928	Y MEXIA	2084	US
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 928	Y MEXIA	2084	GH
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 928	Y MEXIA	2084	NY
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 926	Y MEXIA	2083	A
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 926	Y MEXIA	2083	NA
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 926	Y MEXIA	2083	US
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 926	Y MEXIA	2083	GH
1873	101	4			14	87	6350	14925	SAVAGE R	06 07 926	Y MEXIA	2083	NY

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO	
1873	101	4			14	87	6334	14936	CATHEDRAL MT		A MURIE	3	GWA	
1873	101	4			14	87	6344	14855	MCKINLEY RIVER	23 08 940	L J PALMER	417	ALA	5622
1873	101	4			14	87	6344	14855	MCKINLEY RIVER	23 08 940	L J PALMER	417	NA	
1873	101	4			14	87	6320	14735	WEST FORK GL	24 08 956	L A VIERECK	1818	ALA	11610
1873	101	4			14	87	6356	14728	DRY CREEK	27 06 962	L A VIERECK	5735	GWA	
1873	101	4			14	87	6340	14935	TEKLANIKA R	03 08 964	L A VIERECK	7421	FSLC	288
1873	101	4			14	87	6340	14935	TEKLANIKA R	03 08 964	L A VIERECK	7422	FSLC	292
1873	101	4			14	88	6328	15010	HIGHWAY PASS	21 07 956	G W ARGUS	629	ALA	4752
1873	101	4			14	88	6328	15010	HIGHWAY PASS	21 07 956	G W ARGUS	629	GWA	
1873	101	4			14	88	6328	15010	HIGHWAY PASS	21 07 956	G W ARGUS	629	RM	
1873	101	4			14	88	6325	15032	MULDROW GL	23 07 928	Y MEXIA	2131	ALA	10207
1873	101	4			14	88	6325	15032	MULDROW GL	23 07 928	Y MEXIA	2131	MIN	
1873	101	4			14	88	6325	15032	MULDROW GL	23 07 928	Y MEXIA	2131	A	
1873	101	4			14	88	6325	15032	MULDROW GL	23 07 928	Y MEXIA	2131	NY	
1873	101	4			14	88	6325	15032	MULDROW GL	23 07 928	Y MEXIA	2131	GH	
1873	101	4			14	88	6325	15032	MULDROW GL	23 07 928	Y MEXIA	2131	US	
1873	101	4			14	88	6331	15003	TOKLAT	02 07 953	A MURIE	10	GWA	
1873	101	4			14	88	6331	15003	TOKLAT	15 08 950	A MURIE	2	GWA	
1873	101	4			14	88	6325	15020	THOROFARE R	04 07 956	L A VIERECK	1097	ALA	11609
1873	101	4			14	88	6325	15020	THOROFARE R	04 07 956	L A VIERECK	1097	GWA	
1873	101	4			14	88	6325	15035	MCKINLEY R	22 06 958	L A VIERECK	3061	GWA	
1873	101	4			14	88	6325	15035	MCKINLEY R	20 07 958	L A VIERECK		GWA	
1873	101	4			14	88	6324	15025	GLACIER CREEK	13 07 956	L A VIERECK	1320	GWA	
1873	101	4			14	88	6330	15050	MCKINLEY RIVER	28 06 958	L A VIERECK	3103	GWA	
1873	101	4			14	88	6324	15025	MULDROW GL	10 07 958	L A VIERECK	3178	GWA	
1873	101	4			14	88	6324	15025	MULDROW GL	10 07 958	L A VIERECK	3189	GWA	
1873	101	4			14	88	6325	15033	MULDROW GL	13 07 956	L A VIERECK	1327	GWA	
1873	101	4			14	88	6324	15032	MULDROW GL	12 08 956	L A VIERECK	1777	GWA	
1873	101	4			14	88	6324	15025	MULDROW GL	10 07 958	L A VIERECK	3189	FSLC	
1873	101	4			14	88	6325	15035	MCKINLEY R	22 06 958	L A VIERECK	3061	FSLC	
1873	101	4			14	88	6324	15025	MULDROW GL	10 07 958	L A VIERECK	3178	FSLC	
1873	101	4			14	88	6324	15025	GLACIER CREEK	13 07 956	L A VIERECK	S.N.	FSLC	
1873	101	4			14	95	6458	16310	ETCHEPJK RIVER	05 09 966	R PEGAU	W15	ALA	32699
1873	101	4			14	95	6458	16310	ETCHEPJK RIVER	05 09 966	R PEGAU	W15	GWA	
1873	101	4			14	100	6444	14805	ROSIE CREEK	08 09 966	L A VIERECK	8102	GWA	
1873	101	4			14	100	6444	14805	ROSIE CREEK	28 06 967	L A VIERECK	8290	GWA	
1873	101	4			14	100	6443	14809	SAM CHARLEY IS	11 06 966	L A VIERECK	7924	GWA	
1873	101	4			14	100	6443	14809	SAM CHARLEY IS	08 07 966	L A VIERECK	8038	GWA	
1873	101	4			14	100	6443	14809	SAM CHARLEY IS	02 06 966	L A VIERECK	7998	GWA	
1873	101	4			14	100	6443	14809	SAM CHARLEY IS	11 06 966	L A VIERECK	7925	GWA	
1873	101	4			14	100	6443	14809	SAM CHARLEY IS	08 07 966	L A VIERECK	8036	GWA	
1873	101	4			14	100	6443	14809	SAM CHARLEY IS	02 06 966	L A VIERECK	7897	GWA	
1873	101	4			14	100	6452	14749	COLLEGE	10 06 959	L A VIERECK	4805	GWA	
1873	101	4			14	101	6403	14542	DELTA JUNCTION	26 07 948	J P ANDERSON	10852	ISC	256182
1873	101	4			14	101	6402	14545	JARVIS CREEK	04 06 951	W J CODY	4999	GWA	
1873	101	4			14	101	6406	14546	BIG DELTA	03 07 951	W J CODY	5713	GWA	
1873	101	4			14	102	6410	14136	FRANKLIN	12 7 941	J P ANDERSON	7212	ALA	514
1873	101	4			14	102	6410	14136	FRANKLIN	12 7 941	J P ANDERSON	7213	ALA	512
1873	101	4			14	102	6410	14136	FRANKLIN	11 07 941	J P ANDERSON	7160	ALA	537
1873	101	4			14	102	6410	14136	FRANKLIN	12 7 941	J P ANDERSON	7213	CAN	
1873	101	4			14	102	6410	14136	FRANKLIN	12 7 941	J P ANDERSON	7213	ISC	256361
1873	101	4			14	102	6410	14136	FRANKLIN	12 7 941	J P ANDERSON	7212	ISC	256362
1873	101	4			14	102	6410	14136	FRANKLIN	11 07 941	J P ANDERSON	7160	ISC	256549
1873	101	4			14	102	6410	14136	FRANKLIN	12 7 941	J P ANDERSON	7212	NA	
1873	101	4			14	102	6410	14136	FRANKLIN	12 7 941	J P ANDERSON	7213	NA	
1873	101	4			14	102	6410	14136	FRANKLIN	12 7 941	J P ANDERSON	7212	GH	
1873	101	4			14	102	6447	14112	EAGLE	27 06 954	S G SMITH	24159	ALA	10642
1873	101	4			14	102	6447	14112	EAGLE	27 06 954	S G SMITH	24156	ALA	10643
1873	101	4			14	102	6447	14112	EAGLE	27 06 954	S G SMITH	24159	GWA	
1873	101	4			14	102	6447	14112	EAGLE	27 06 954	S G SMITH	24156	GWA	
1873	101	4			14	102	6443	14117	EAGLE	27 06 966	S L WELSH	5612	GWA	
1873	101	4			14	102	6443	14117	EAGLE	27 06 966	S L WELSH	5612A	GWA	
1873	101	4			14	113	6655	16231	KOTZEBJE	12 08 938	J P ANDERSON	4707	ISC	256213
1873	101	4			14	113	6655	16231	KOTZEBJE	12 08 938	J P ANDERSON	4707	NA	
1873	101	4			14	113	6655	16231	KOTZEBJE	11 08 966	G W ARGUS	5970	GWA	
1873	101	4			14	113	6655	16231	KOTZEBJE	11 08 966	G W ARGUS	5971	GWA	
1873	101	4			14	113	6655	16231	KOTZEBJE	11 08 966	G W ARGUS	5973	GWA	
1873	101	4			14	114	6658	16026	KIANA	15 06 937	O P CLARK		ALA	10189
1873	101	4			14	119	6635	14510	FORT YJKON	23 06 965	V L HARMS	3822	ALA	32599
1873	101	4			14	120	6644	14334	BLACK RIVER	10 07 957	S SHETLER	482AF	ALA	3968
1873	101	4			14	121	6715	14140	PORCUPINE R	19 07 957	J L BUCKLEY	110	ALA	5100
1873	101	4			14	121	6715	14140	PORCUPINE R	19 07 957	J L BUCKLEY	112	ALA	5120
1873	101	4			14	121	6715	14140	PORCUPINE R	19 07 957	J A BUCKLEY	111	ALA	26765
1873	101	4			14	121	6715	14140	PORCUPINE R	19 07 957	J A BUCKLEY	111	ALA	5097
1873	101	4			14	121	6715	14140	PORCUPINE R	19 07 957	J L BUCKLEY	112	GWA	
1873	101	4			14	121	6715	14140	PORCUPINE R	19 07 957	J L BUCKLEY	110	GWA	
1873	101	4			14	121	6715	14140	PORCUPINE R	19 07 957	J A BUCKLEY	111	GWA	
1873	101	4			14	121	6723	14350	SMALL LAKE	25 07 957	S SHETLER	674AF	ALA	4697
1873	101	4			14	121	6723	14350	SMALL LAKE	29 07 957	S SHETLER	734AF	ALA	4131
1873	101	4			14	121	6723	14350	SMALL LAKE	23 07 957	S SHETLER	624	ALA	4664
1873	101	4			14	124	6725	15007	WISEMAN	31 07 939	J P ANDERSON	5818	ALA	27557
1873	101	4			14	124	6725	15007	WISEMAN	08 07 962	R BROCKMAN		ALA	28501
1873	101	4			14	124	6725	15007	WISEMAN	20 06 962	R BROCKMAN		ALA	28432
1873	101	4			14	124	6725	15007	WISEMAN	20 06 962	R BROCKMAN		ALA	28508
1873	101	4			14	124	6726	15007	WISEMAN	28 06 949	L H JORDAL	2033	ISC	256212
1873	101	4			14	124	6725	15007	WISEMAN	01 08 940	E SCAMMAN	2237	GWA	
1873	101	4			14	124	6725	15007	WISEMAN	01 08 940	E SCAMMAN	2235	GWA	
1873	101	4			14	124	6725	15007	WISEMAN	01 08 940	E SCAMMAN	2235	MIN	
1873	101	4			14	124	6725	15007	WISEMAN	01 08 940	E SCAMMAN	2235	GH	
1873	101	4			14	125	6757	15310	EASTER CREEK	05 08 965	V STAENDER	60	GWA	
1873	101	4			14	126	6706	15815	ONION PORTAGE	05 07 967	C SCHWEGER	62	ALA	34707

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	101	4			14	129	6808	16540	OGOTORJK CR	28 06 959	A W JOHNSON	215A	ALA 26714
1873	101	4			14	129	6808	16540	OGOTORJK CR	28 06 959	A W JOHNSON	215A	ALA 9187
1873	101	4			14	129	6808	16540	OGOTORUK CR	28 06 959	A W JOHNSON	215	ALA 26693
1873	101	4			14	129	6808	16540	OGOTORUK CR	28 06 959	A W JOHNSON	215	ALA 9193
1873	101	4			14	129	6817	16532	KUKPUK RIVER	15 08 959	A W JOHNSON	673	ALA 26713
1873	101	4			14	129	6817	16532	KUKPUK RIVER	15 08 959	A W JOHNSON	673	ALA 9191
1873	101	4			14	129	6808	16540	OGOTORJK CR	28 06 959	A W JOHNSON	215A	GWA
1873	101	4			14	129	6817	16532	KUKPUK RIVER	15 08 959	A W JOHNSON	673	GWA
1873	101	4			14	129	6808	16540	OGOTORJK CR	28 06 959	A W JOHNSON	215	GWA
1873	101	4			14	129	6845	16610	UKINYIK CREEK	02 08 960	L A VIERECK	4451	ALA 13233
1873	101	4			14	129	6815	16528	KUKPUK RIVER	22 08 960	L A VIERECK	4651	ALA 13234
1873	101	4			14	129	6814	16528	KUKPUK RIVER	22 08 960	L A VIERECK	4651	ALA 13235
1873	101	4			14	129	6814	16528	KUKPUK RIVER	22 08 960	L A VIERECK	4651	ALA 13235
1873	101	4			14	131	6855	16110	DRIFTWOOD CR	29 6 969	R E PEGAU	16269	GWA
1873	101	4			14	131	6855	16110	DRIFTWOOD CR	29 6 969	R E PEGAU	16169	GWA
1873	101	4			14	137	6839	14100	FIRTH RIVER	16 06 961	E L LITTLE, JR.	18483	GWA
1873	101	4			14	139	6905	14506	CANNING RIVER	28 07 947	L SPETZMAN	405	TSC 256216
1873	101	4			14	141	6920	15210	UMIAT	22 06 951	J L BUCKLEY		ALA 5032
1873	101	4			14	141	6922	15208	UMIAT	31 07 948	DUTILLY	688	TSC 256214
1873	101	4			14	141	6922	15208	UMIAT	27 06 953	S G SMITH	1847A	ALA 10651
1873	101	4			14	141	6922	15208	UMIAT	27 06 953	S G SMITH	1847B	ALA 10733
1873	101	4			14	141	6923	15210	UMIAT	27 07 966	Y SUDA	24766	GWA
1873	101	4			14	141	6923	15210	UMIAT	27 07 966	Y SUDA	24466	GWA
1873	101	4			14	141	6923	15210	UMIAT	27 07 966	Y SUDA	24666	GWA
1873	101	4			14	142	6938	15452	IKPIKPUK RIVER	08 07 959	O W GEIST	S.N.	ALA 28203
1873	101	4			14	142	6938	15452	IKPIKPJK RIVER	08 07 959	O W GEIST	S.N.	ALA 29309
1873	101	4			14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5665	GWA
1873	101	4			14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5663	GWA
1873	101	4			14	146	7010	16000	KETIK RIVER	21 08 959	O W GEIST	S.N.	ALA 28965
1873	101	4			14	146	7008	15937	KETIK RIVER	21 08 959	O W GEIST	S.N.	ALA 27597
1873	101	4			14	147	7030	15730	MEADE RIVER PO	17 07 966	G W ARGUS	5316	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5238	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5206	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	17 07 966	G W ARGUS	5315	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5208	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5270	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5274	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5237	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5275	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	17 07 966	G W ARGUS	5318	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	17 07 966	G W ARGUS	5312	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	17 07 966	G W ARGUS	5317	GWA
1673	101	4			14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5202	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5252	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5277	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5253	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5269	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	14 07 966	Y SUDA	19666	GWA
1873	101	4			14	147	7030	15730	MEADE RIVER PO	15 07 966	Y SUDA	21166	GWA
102 1	RETICULATA SSP. RETICULATA												
1873	102	1			2	2	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6780	GWA
1873	102	1			2	2	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6724	GWA
1873	102	1			2	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6767	GWA
1873	102	1			2	2	5938	13628	HAINES RD M82	24 06 948	H M RAUP	13194	ALA 19378
1873	102	1			2	16	5831	12434	SUMMIT PASS	11 06 943	H M RAUP	10465	ALA 19382
1873	102	1			2	24	5720	12356	FAIRY LAKE	18 07 960	J A CALDER	27157	ALA 17426
1873	102	1			7	133	6944	13230	WARREN PT.	27 7 957	W J CODY	10258	DAO
1873	102	1			7	133	6944	13230	WARREN POINT	27 7 957	W J CODY	10258	DAO
1873	102	1			7	134	6942	12900	ANDERSON R.	22 8 959	T W BARRY	448	DAO
1873	102	1			7	134	6942	12903	ANDERSON R	22 8 959	T W BARRY	448	DAO
1873	102	1			7	134	6956	12858	NICHOLSON PEN	27 6 963	J A PARMELEE	2550	DAO
1873	102	1			7	134	6956	12858	NICHOLSON PEN	27 6 963	J A PARMELEE	2550	DAO
1873	102	1			7	135	6921	13341	KITTIGAZIUT	30 06 940	J ROBERTSON	38	TSC 256495
1873	102	1			7	140	6903	10505	VICTORIA IS	12 08 959	J W THOMSON		WIS
1873	102	1			7	152	6813	13554	CANOE L.	18 7 963	W J CODY	12987	DAO
1873	102	1			7	152	6824	13408	REINDEER STA.	4 7 957	W J CODY	9826	DAO
1873	102	1			7	152	6813	13554	CANOE L	18 7 963	W J CODY	12987	DAO
1873	102	1			7	241	6500	12715	DODO CANYON	1 8 953	W J CODY	7698	DAO
1873	102	1			7	274	6447	12937	KEELE R.	25 7 963	E KVALE	241G	DAO
1873	102	1			7	274	6447	12937	KEELE R	25 7 963	E KVALE	241G	DAO
1873	102	1			7	276	6431	12634	STERILE L.	1 7 967	N W SIMMONS	47	DAO
1873	102	1			7	276	6431	12634	STERILE L	1 7 967	N W SIMMONS	47	DAO
1873	102	1			7	290	6418	09603	BAKER LAKE	08 947	T N FREEMAN	2	TSC 256528
1873	102	1			7	297	6409	08318	CORAL HARBOUR	04 08 948	W J CODY	1819	TSC 256529
1873	102	1			7	307	6305	12835	LTL. DIVIDE L	26 7 967	W J CODY	16559	DAO
1873	102	1			7	307	6331	12840	JUNE L.	2 8 967	W J CODY	17276	DAO
1873	102	1			7	307	6331	12840	JUNE L	2 8 967	W J CODY	17276	DAO
1873	102	1			7	307	6305	12835	LTL DIVIDE L	26 7 967	W J CODY	16559	DAO
1873	102	1			7	309	6308	12630	DAL L.	3 6 963	E KVALE	2	DAO
1873	102	1			7	309	6308	12630	DAL LAKE	3 6 963	E KVALE	2	DAO
1873	102	1			7	335	6345	06832	FROBISHER BAY	06 07 948	H A SENN	3763	TSC 256531
1873	102	1			7	338	6224	12714	MACKENZIE MTS	13 7 963	E R ROWLANDS	51	DAO
1873	102	1			7	338	6224	12714	MACKENZIE MTS	13 7 963	E R ROWLANDS	51	DAO
1873	102	1			7	339	6205	12735	BRINTNELL LAKE	23 06 939	H M RAUP	9253	ALA 16407
1873	102	1			7	339	6205	12735	BRINTNELL LAKE	26 06 939	H M RAUP	9301	ALA 16412
1873	102	1			7	368	6120	12428	S.NAHANNI R.	2 7 970	G W SCOTTER	12575	GWA
1873	102	1			7	402	6050	09425	MH MCCONNELL R	07 07 964	K L MACINNES	47	UWO
1873	102	1			7	402	6050	09425	MH MCCONNELL R	03 08 963	K L MACINNES	226	UWO

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	102	1			12	3	6850	14033	FIRTH RIVER	06 08 953	E MCEWEN	166	CAN 226056
1873	102	1			12	3	6850	14033	FIRTH RIVER	28 07 962	P YOUNGMAN	173	CAN 273835
1873	102	1			12	15	6430	13828	OGILVIE MTS	27 06 966	R T PORSILD	15	CAN 303406
1873	102	1			12	15	6430	13828	OGILVIE MTS	27 07 966	R T PORSILD	356	CAN 303405
1873	102	1			12	15	6445	13830	OGILVIE MTS	27 7 966	R T PORSILD	356	CAN
1873	102	1			12	15	6445	13830	OGILVIE MTS	27 6 966	R T PORSILD	15	CAN
1873	102	1			12	15	6435	13820	CHAPMAN LAKE	28 06 964	P YOUNGMAN	491	CAN 283818
1873	102	1			12	15	6430	13828	OGILVIE MTS	14 07 963	P YOUNGMAN	363	CAN 279587
1873	102	1			12	15	6430	13828	OGILVIE MTS	18 07 963	P YOUNGMAN	363	CAN 279587
1873	102	1			12	15	6445	13830	OGILVIE MTS	18 7 963	P YOUNGMAN	383	CAN
1873	102	1			12	19	6420	13200	BONNET PLUME L	11 07 966	W BUTLER	31	CAN 303134
1873	102	1			12	20	6345	13858	KLONDIK	14 08 902	J M MACOUN		CAN 54407
1873	102	1			12	21	6334	13728	MCQUESTEN	12 08 948	J CAMPBELL	795	CAN 126891
1873	102	1			12	24	6331	13028	KEELE LAKE	01 08 966	W BUTLER	30	CAN 303135
1873	102	1			12	32	6159	14037	WHITE RIVER	21 07 944	J P ANDERSON	9311	ISC 256522
1873	102	1			12	32	6103	13821	JENNY LAKE	06 07 966	J NEILSON	1105	CAN 313097
1873	102	1			12	32	6103	13821	JENNY L	6 7 966	J NEILSON	1105	CAN 313097
1873	102	1			12	32	6103	13831	KLUANE LAKE	02 07 944	H M RAUP	12189	ALA 19381
1873	102	1			12	32	6149	13835	PTARMIGAN HEAR	16 07 948	H M RAUP	13713	ALA 19383
1873	102	1			12	32	6103	13831	KLUANE L	2 7 944	H M RAUP	12189	ALA 19381
1873	102	1			12	32	6149	13835	PTARMIGAN HRT	16 7 948	H M RAUP	13713	ALA 19383
1873	102	1			12	35	6145	13258	CANOL RD M118	29 06 944	A E PORSILD	10124	ISC 256543
1873	102	1			12	35	6145	13258	ROSE-LAPIE R	29 6 944	A E PORSILD	10124	ISC 256543
1873	102	1			12	37	6129	12941	FINLAYSON R	18 07 887	DAWSON		CAN 18848
1873	102	1			12	37	6129	12941	FINLAYSON R	18 7 887	DAWSON	S.N.	CAN 18848
1873	102	1			12	37	6140	12825	LTL HYLAND R	28 06 903	P YOUNGMAN	491	CAN 283818
1873	102	1			12	37	6140	12825	LTL HYLAND R	28 6 963	P YOUNGMAN	S.N.	CAN
1873	102	1			12	39	6058	13829	KLUANE L	24 07 944	J P ANDERSON	9409	ISC 256519
1873	102	1			12	39	6058	13829	KLUANE L	24 7 944	J P ANDERSON	9409	ISC 256519
1873	102	1			12	39	6049	13844	OBSERVATION MT	06 07 966	D F MURRAY	582	GWA
1873	102	1			12	39	6055	13843	SLIMS RIVER	05 07 967	D F MURRAY	846	GWA
1873	102	1			12	39	6055	13843	SLIMS RIVER	09 07 967	D F MURRAY	915	GWA
1873	102	1			12	39	6055	13843	SLIMS R	5 7 967	D F MURRAY	846	GWA
1873	102	1			12	39	6055	13843	SLIMS R	9 7 967	D F MURRAY	915	GWA
1873	102	1			12	39	6049	13844	OBSERVATION MT	6 7 966	D F MURRAY	582	GWA
1873	102	1			12	39	6057	13825	SLIMS RIVER	18 07 944	H M RAUP	12580	ALA 19377
1873	102	1			12	39	6057	13825	SLIMS R	18 7 944	H M RAUP	12580	ALA 19377
1873	102	1			12	40	6042	13748	DEZADEASH R	28 06 965	A M PEARSON	135	CAN 293846
1873	102	1			12	40	6042	13748	DEZADEASH R	28 6 965	A M PEARSON	135	CAN
1873	102	1			12	40	6047	13735	PINE CR	17 06 944	H M RAUP	11797	ALA 19387
1873	102	1			12	40	6047	13735	PINE CR	23 06 944	H M RAUP	11871	ALA 19380
1873	102	1			12	40	6047	13735	PINE CR	23 06 944	H M RAUP	11871	GWA
1873	102	1			12	40	6047	13735	PINE CR	17 6 944	H M RAUP	11797	ALA 19387
1873	102	1			12	40	6047	13735	PINE CR	23 6 944	H M RAUP	11871	ALA 19380
1873	102	1			12	40	6047	13735	PINE CR	23 6 944	H M RAUP	11871	GWA
1873	102	1			12	40	6048	13737	MACKINTOSH	07 07 957	W SCHOFIELD	7586	CAN 269665
1873	102	1			12	40	6048	13737	MACKINTOSH	7 7 957	W SCHOFIELD	7586	CAN 269665
1873	102	1			12	40	6044	13632	MT BRATNOBER	09 07 962	L A SPETZMAN	116	CAN 274631
1873	102	1			12	40	6044	13632	MT BRATNOBER	9 7 962	L A SPETZMAN	116	CAN 274631
1873	102	1			12	41	6043	13503	WHITEHORSE	01 08 944	J P ANDERSON	9636	ISC 256516
1873	102	1			12	41	6043	13503	WHITEHORSE	1 8 944	J P ANDERSON	9636	ISC 256516
1873	102	1			12	41	6043	13503	WHITEHORSE	01 06 944	A E PORSILD	9153	GH
1873	102	1			12	41	6043	13503	WHITEHORSE	1 6 944	A E PORSILD	9153	GH
1873	102	1			12	42	6033	13306	JOHNSON CROSS	30 06 959	S SHETLER	3109	CAN 297301
1873	102	1			12	42	6033	13306	JOHNSONS CROSS	30 6 959	S SHETLER	3109	CAN
1873	102	1			14	4	5555	13415	CORONATION ISL	09 06 959	D KLEIN	459	ALA 23056
1873	102	1			14	10	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6435	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6454	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6462	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6457	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6436	GWA
1873	102	1			14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6503	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6447	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6456	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6447	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6457	GWA
1873	102	1			14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6503	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6456	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6436	GWA
1873	102	1			14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6454	GWA
1873	102	1			14	10	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6435	GWA
1873	102	1			14	10	5855	13603	MUIR INLET	28 .06 967	G W ARGUS	6385	GWA
1873	102	1			14	10	5856	13603	MUIR INLET	29 6 9LM	G W ARGUS	6385	GWA
1873	102	1			14	11	5818	13424	JUNEAU	14 08 917	J P ANDERSON	414	ISC 85594
1873	102	1			14	11	5840	13410	TAKU B NUNATAK	10 08 952	G W ARGUS	98	ALA 4732
1873	102	1			14	11	5830	13415	JUNEAU ICE FD	27 07 952	G W ARGUS	97	GWA
1873	102	1			14	11	5840	13410	TAKU B NUNATAK	10 08 952	G W ARGUS	98	GWA
1873	102	1			14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6593	GWA
1873	102	1			14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6658	GWA
1873	102	1			14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	66208	GWA
1873	102	1			14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6637	GWA
1873	102	1			14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6646	GWA
1873	102	1			14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6647	GWA
1873	102	1			14	11	5818	13423	MT ROBERTS	09 7 967	G W ARGUS	6647	GWA
1873	102	1			14	11	5818	13423	MT ROBERTS	09 7 967	G W ARGUS	66208	GWA
1873	102	1			14	11	5818	13423	MT ROBERTS	09 7 967	G W ARGUS	6646	GWA
1873	102	1			14	11	5818	13423	MT ROBERTS	09 7 967	G W ARGUS	6637	GWA
1873	102	1			14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6593	GWA
1873	102	1			14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6658	GWA
1873	102	1			14	13	5255	17255E	ATTU ISLAND	28 06 945	G W SOULE	60	ISC 256514
1873	102	1			14	21	5250	16905	ANANULIAK IS	05 08 962	M JOHNSON	238	WIS

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	102	1			14	21	5300	16854	ANANUDIAK IS	29 07 937	J H STEENIS	4532	WIS
1873	102	1			14	22	5245	16858	UMNAK ISLAND	03 08 962	M JOHNSON	1047	WIS
1873	102	1			14	22	5245	16858	UMNAK ISLAND	13 08 962	M JOHNSON	1114	WIS
1873	102	1			14	22	5245	16858	UMNAK ISLAND	04 07 962	M JOHNSON	204	WIS
1873	102	1			14	22	5245	16858	UMNAK ISLAND	08 08 962	M JOHNSON	1067	WIS
1873	102	1			14	22	5245	16858	UMNAK ISLAND	04 08 962	M JOHNSON	1010	WIS
1873	102	1			14	22	5245	16858	UMNAK ISLAND	08 08 962	M JOHNSON	1031	WIS
1873	102	1			14	23	5335	16650	UNALASKA	23 07 938	J P ANDERSON	4213	ISC 256488
1873	102	1			14	23	5324	16733	CHERNOFSKI	21 07 941	L J COLE		ISC 256515
1873	102	1			14	24	5408	16546	AKUTAN ISLAND	15 07 934	I L NORBERG		ISC 256496
1873	102	1			14	25	5459	16228	COLD BAY	17 7 971	M WILLIAMS	2855	GWA
1873	102	1			14	25	5459	16228	COLD BAY	26 7 971	M WILLIAMS	2971	GWA
1873	102	1			14	35	5705	15425	OLGA BAY	26 06 945	F BEALS	102	CAN
1873	102	1			14	35	5730	15413	KODIAK REFUGUM	18 06 962	M JOHNSON	102	WIS
1873	102	1			14	38	5710	17015	ST PAUL ISLAND	18 07 938	J P ANDERSON	4059	ISC 256511
1873	102	1			14	38	5710	17015	ST PAUL ISLAND	08 07 941	L J COLE		ISC 256513
1873	102	1			14	38	5710	17015	ST PAUL ISLAND	06 897	J M MACOUN		CAN 18875
1873	102	1			14	38	5710	17015	ST PAUL ISLAND	29 07 914	J M MACOUN		CAN 93812
1873	102	1			14	39	5834	16146	HAGEMEISTER IS	11 6 970	L DICK	90	GWA
1873	102	1			14	43	5804	15304	RASPBERRY IS	25 08 946	W J EYERDAM	5200	ISC 256546
1873	102	1			14	56	6024	17242	ST MATTHEW IS	16 07 938	J P ANDERSON	3948	ISC 256510
1873	102	1			14	56	6024	17235	ST MATTHEW IS	01 07 966	V L HARMS	5354	ALA 32663
1873	102	1			14	56	6030	17300	ST MATTHEW IS	19 07 957	D KLEIN	21	ALA 6669
1873	102	1			14	57	6012	16656	NUNIVAK ISLAND	15 07 938	J P ANDERSON	3880	ISC 256523
1873	102	1			14	57	6012	16656	NINIVAK ISLAND	10 07 965	G BOS		ALA 32286
1873	102	1			14	57	6023	16611	NUNIVAK ISLAND	13 07 929	W R MILLER	1590	ALA 2027
1873	102	1			14	57	6018	16611	NUNIVAK ISLAND	13 07 929	W R MILLER	1590	ALA 23508
1873	102	1			14	57	6023	16611	NUNIVAK ISLAND	02 08 965	D F SEIM		ALA 31950
1873	102	1			14	59	6029	16049	CORRAL CR	23 06 926	W R MILLER	1573	ALA 2033
1873	102	1			14	67	6100	14139	CHITINA R	16 06 925	H LAING	44	CAN
1873	102	1			14	67	6100	14139	CHITINA R	14 06 925	H LAING	47	CAN
1873	102	1			14	68	6107	14544	THOMPSON PASS	05 07 935	J P ANDERSON	1889	ISC 256498
1873	102	1			14	69	6148	14730	SHEEP MT	17 07 948	J P ANDERSON	10746	ISC 256544
1873	102	1			14	69	6152	14710	GLENN HWY M128	13 06 944	J P ANDERSON	8445	ISC 256518
1873	102	1			14	69	6145	14915	WILLOW CR RD	12 07 931	J P ANDERSON	998	ISC 256509
1873	102	1			14	69	6145	14915	WILLOW CR RD	12 07 931	J P ANDERSON	998	ALA 27300
1873	102	1			14	69	6145	14920	WILLOW CR RD	09 07 951	G M FROHNE	5122	ALA 21826
1873	102	1			14	69	6140	14900	MATANUSKA VY	940	L J PALMER	104	ALA 5164
1873	102	1			14	69	6140	14900	MATANUSKA VY	940	L J PALMER	396	ALA 5963
1873	102	1			14	69	6146	14918	HATCHER PASS	15 07 965	S L WELSH	4690	ISC 247241
1873	102	1			14	69	6146	14918	HATCHER PASS	16 07 965	S L WELSH	4707	ISC 247098
1873	102	1			14	71	6158	15438	BIG RIVER	18 7 950	W H DRURY	4303	CAN
1873	102	1			14	71	6152	15433	HEAD OF BIG R.	4 7 950	W H DRURY	3989	CAN
1873	102	1			14	75	6151	16535	SCAMMON BAY	16 06 961	E HULTEN		US 2384897
1873	102	1			14	77	6205	16343	MOUNTAIN VIL		H KYLLINGSTAD	S.N.	ISC 256480
1873	102	1			14	79	6259	15604	TAKOTNA	27 07 941	J P ANDERSON	7434	ISC 256492
1873	102	1			14	79	6259	15604	TAKOTNA	27 07 941	J P ANDERSON	7434	ALA 549
1873	102	1			14	80	6231	15353	FAREWELL	12 8 949	W H DRURY	2915	CAN
1873	102	1			14	80	6233	15336	FAREWELL L.	3 8 949	W H DRURY	2410	CAN
1873	102	1			14	80	6233	15336	FAREWELL MT.	8 8 949	W H DRURY	2776	CAN
1873	102	1			14	80	6233	15336	FAREWELL MT.	8 8 949	W H DRURY	2745	CAN
1873	102	1			14	80	6300	15400	FAIRWELL	27 05 953	S G SMITH	1726	ALA 10648
1873	102	1			14	81	6240	15230	TONZONA R.	19 07 961	L A VIERECK	5068A	GWA
1873	102	1			14	84	6230	14330	NABESNA RD M29	21 07 962	M SHARROCK		ALA 25392
1873	102	1			14	85	6308	14315	TOKSLA HWY M33	24 06 944	J P ANDERSON	8744	ISC 256517
1873	102	1			14	85	6327	14340	MOON LAKE	10 06 965	V L HARMS	3594	ALA 32617
1873	102	1			14	85	6310	14330	SLIPPERY RK CR	19 07 957	L A SPETZMAN	735	ALA 6868
1873	102	1			14	86	6313	14536	RICH HWY M202	10 07 935	J P ANDERSON	2149	ISC 256499
1873	102	1			14	86	6357	14658	FK LTL DELTA R	06 941	J P ANDERSON	512	ALA 5636
1873	102	1			14	86	6330	14535	RAINBOW MT	09 06 965	V L HARMS	3576	ALA 32620
1873	102	1			14	86	6345	14554	DONNELLY DOME	08 06 965	V L HARMS	3535	ALA 32615
1873	102	1			14	86	6345	14554	DONNELLY DOME	02 07 964	V L HARMS	2852	ALA 32616
1873	102	1			14	86	6340	14555	DONNELLY DOME	01 07 964	V L HARMS	2800	ALA 32614
1873	102	1			14	86	6305	14545	PAXON	17 07 965	V L HARMS	4197	ALA 32619
1873	102	1			14	86	6357	14658	FK LTL DELTA R	06 941	L J PALMER	534	ALA 5224
1873	102	1			14	86	6320	14535	RAINBOW MT	04 07 966	C PARKER	RM49	ALA 32686
1873	102	1			14	86	6320	14535	RAINBOW MT	06 07 966	C PARKER	RM72	ALA 32684
1873	102	1			14	86	6348	14432	UPPER DRY CR	02 08 957	L A SPETZMAN	990	ALA 6869
1873	102	1			14	86	6310	14541	FIELDING LAKE	05 08 961	R SPOONER	P100	ALA 19063
1873	102	1			14	86	6315	14537	PAXON	24 06 965	S L WELSH	4315	ISC 246111
1873	102	1			14	87	6352	14859	HEALY	23 07 939	J P ANDERSON	5760	ISC 256506
1873	102	1			14	87	6352	14859	HEALY	23 07 939	J P ANDERSON	5760	ISC 256506
1873	102	1			14	87	6325	14900	CANTWELL	17 07 956	G W ARGUS	595	ALA 4514
1873	102	1			14	87	6338	14930	TEKLANIKA R	14 07 957	F C DEAN		ALA 24941
1873	102	1			14	87	6350	14925	SAVAGE R	17 06 965	B FABER	48	ALA 31007
1873	102	1			14	87	6352	14859	HEALY	15 08 950	D HANSON	50	ISC 256485
1873	102	1			14	87	6352	14859	HEALY	15 08 950	D HANSON	50	ISC 256485
1873	102	1			14	87	6335	14915	SAVAGE R	17 06 928	Y MEXIA	2010	ALA 10198
1873	102	1			14	87	6350	14925	SAVAGE R	01 07 928	Y MEXIA	2074	ALA 10205
1873	102	1			14	87	6336	14932	IGLOO CREEK	10 07 939	A NELSON	3737	ISC 256490
1873	102	1			14	87	6344	14858	MCK NAT PK	24 06 939	A NELSON	3533	ISC 256489
1873	102	1			14	87	6336	14932	IGLOO CREEK	10 07 939	A NELSON	3737	ALA 546
1873	102	1			14	87	6344	14858	MCK NAT PK	24 06 939	A NELSON	3533	ALA 547
1873	102	1			14	87	6355	14828	DRY CR	23 06 962	L A VIERECK	5680	GWA
1873	102	1			14	88	6328	15050	WONDER LAKE		P ANDERSON		ISC 256497
1873	102	1			14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	638	ALA 4728
1873	102	1			14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	638	ALA 22466
1873	102	1			14	88	6325	15020	CAMP EIELSON	22 07 956	G W ARGUS	638	GWA
1873	102	1			14	88	6330	15052	WONDER LAKE	21 07 939	A NELSON	3926	ALA 548
1873	102	1			14	88	6325	15015	CAMP EIELSON	30 06 962	R RICHEY		ALA 26100
1873	102	1			14	88	6326	15024	MCK PK RD	27 07 962	R RICHEY		ALA 26097

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	102	1			14	88	6325	15015	CAMP EIELSON	26 06 962	R RICHEY	S.N.	ALA 26098
1873	102	1			14	88	6325	15015	CAMP EIELSON	03 07 959	L SCHENE	S.N.	ALA 25319
1873	102	1			14	88	6330	15015	STONY CR	23 07 959	L SCHENE		ALA 25315
1873	102	1			14	88	6324	15025	MULDROW GL	10 07 958	L A VIERECK	3180	LAV
1873	102	1			14	88	6324	15025	MULDROW GL	10 07 958	L A VIERECK	3180	FSLC 346
1873	102	1			14	88	6324	15025	MULDROW GL	10 07 958	L A VIERECK	3180	GWA
1873	102	1			14	88	6324	15025	MULDROW GL	04 07 956	L A VIERECK	1079	ALA 8283
1873	102	1			14	93	6347	17145	ST LAWRENCE IS	29 06 938	J P ANDERSON	3698	ISC 256526
1873	102	1			14	93	6330	17030	ST LAWRENCE IS	17 08 933	O W GEIST		ALA 29396
1873	102	1			14	93	6321	17134	ST LAWRENCE IS	30 06 960	E G SAUER	S.N.	WIS
1873	102	1			14	94	6435	16532	NOME	03 07 938	J P ANDERSON	3743	ISC 256525
1873	102	1			14	94	6430	16525	NOME	08 07 950	H C HANSON	370	ISC 256486
1873	102	1			14	94	6430	16530	NOME	19 06 954	C HELLER	1120	ALA 27012
1873	102	1			14	94	6430	16530	NOME	12 06 954	C HELLER	1004A	ALA 26824
1873	102	1			14	94	6430	16530	NOME	23 06 929	W B MILLER	113C	ALA 2024
1873	102	1			14	94	6435	16532	NOME	16 06 966	R PEGAU	W2	GWA
1873	102	1			14	94	6446	16630	CAPE WOOLLEY	16 7 969	R E PEGAU	27169	GWA
1873	102	1			14	94	6436	14530	NOME	14 07 966	S L WELSH	5876	GWA
1873	102	1			14	95	6426	16250	GOLOVIN	17 06 938	J P ANDERSON	3423	ISC 256527
1873	102	1			14	95	6437	16215	ELIM	31 8 938	J P ANDERSON	5120	ISC 256507
1873	102	1			14	101	6433	14455	BIG DELTA	30 06 956	A W JOHNSON	55	ALA 7072
1873	102	1			14	101	6433	14455	BIG DELTA	30 06 956	A W JOHNSON	55	ALA
1873	102	1			14	102	6410	14147	FRANKLIN	13 07 941	J P ANDERSON	3247	ISC 256493
1873	102	1			14	104	6530	14600	TWELVE MI SUM	15 06 963	F M CHAUVIN	12	ALA 23845
1873	102	1			14	104	6523	14555	TWELVE MI SUM	15 07 967	V L HARMS	6121	ALA 34631
1873	102	1			14	104	6525	14520	EAGLE SUMMIT	29 07 961	R HERRIEK		ALA 18480
1873	102	1			14	104	6425	14520	EAGLE SUMMIT	30 06 959	T P O:FARRELL	60	ALA 9618
1873	102	1			14	104	6522	14556	TWELVE MI SUM	16 06 957	S SHETLER	62AF	ALA 3718
1873	102	1			14	104	6531	14513	MILLER HOUSE	04 06 953	S G SMITH	1771	ALA 10734
1873	102	1			14	104	6529	14526	EAGLE SUMMIT	21 06 965	J TRENT	60	ALA 30641
1873	102	1			14	104	6520	14550	STEES HWY M88	25 07 964	L A VIERECK	7352	FSLC 308
1873	102	1			14	110	6534	16309	IMURUK L	06 07 947	J G SIEH	31	ISC 256545
1873	102	1			14	111	6533	16751	TIN CITY	19 08 938	J P ANDERSON	4880	ISC 256524
1873	102	1			14	113	6654	16235	KOTZEBUE	10 08 938	J P ANDERSON	4709	ISC 256508
1873	102	1			14	114	6658	16026	KIANA	15 06 937	O D CLARK		ALA 10191
1873	102	1			14	119	6655	14516	FT YUKON	949	M T COOK		ISC 256487
1873	102	1			14	122	6803	14500	OLD JOHN L	07 08 957	S SHETLER	994AF	ALA 4282
1873	102	1			14	122	6803	14500	OLD JOHN L	06 08 957	S SHETLER	997AF	ALA 4268
1873	102	1			14	122	6803	14500	OLD JOHN L	09 08 957	S SHETLER	1081AF	ALA 4337
1873	102	1			14	122	6803	14500	OLD JOHN L	09 08 957	S SHETLER	1065AF	ALA 4326
1873	102	1			14	124	6730	15007	WISEMAN	01 08 939	J P ANDERSON	5875	ISC 256505
1873	102	1			14	124	6725	15007	WISEMAN	01 08 939	J P ANDERSON	5875	ALA 27553
1873	102	1			14	124	6725	15007	WISEMAN	14 06 962	R BROCKMAN	2616	ALA 28485
1873	102	1			14	124	6730	15007	WISEMAN	06 06 946	W JOHNSON	30J	ALA 10192
1873	102	1			14	124	6730	15000	WISEMAN	02 08 937	E SCAMMAN	903	GWA
1873	102	1			14	125	6757	15315	LONELY LAKE	03 07 965	V STAENDER	48	S.N.
1873	102	1			14	125	6757	15315	LONELY LAKE	03 07 965	V STAENDER	48	ALA
1873	102	1			14	126	6706	15815	ONION PORTAGE	27 06 967	C SCHWEGER	5	ALA 34706
1873	102	1			14	127	6815	16600	CAPE THOMPSON	22 06 960	L H BELSON		ALA 28752
1873	102	1			14	127	6815	16600	CAPE THOMPSON	08 07 960	L H BELSON		ALA 28862
1873	102	1			14	127	6815	16600	CAPE THOMPSON	06 960	L H BELSON		ALA 28834
1873	102	1			14	127	6815	16600	CAPE THOMPSON	14 06 960	L H BELSON		ALA 28806
1873	102	1			14	128	6745	16430	KIVALINA	29 06 960	A BUCKNELL	50	ALA 26601
1873	102	1			14	129	6853	16613	CAPE LISBURNE	07 08 938	J P ANDERSON	4499	ISC 256542
1873	102	1			14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5960	GWA
1873	102	1			14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5955	GWA
1873	102	1			14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5956	GWA
1873	102	1			14	129	6810	16538	OGOTORUK CREEK	04 07 959	A W JOHNSON	282	ALA 9178
1873	102	1			14	129	6810	16538	OGOTORUK CREEK	22 06 961	R JOHNSON	36	ALA 17680
1873	102	1			14	129	6810	16538	OGOTORUK CREEK	04 07 959	A W JOHNSON	282	GWA
1873	102	1			14	129	6817	16532	KUKPUK R	27 07 960	H R MELCHIOR	180	ALA 17835
1873	102	1			14	129	6800	16530	KUKPUK R	15 08 962	H R MELCHIOR	399	GWA
1873	102	1			14	129	6805	16535	KUKPUK R	24 06 964	G STREVELER		WIS
1873	102	1			14	130	6848	16420	CAPE SABINE	10 07 958	J W THOMSON		WIS
1873	102	1			14	130	6848	16420	CAPE SABINE	10 07 958	J W THOMSON		WIS
1873	102	1			14	133	6850	15425	OOLAMNAGAVIK R	01 07 946	R M CHAPMAN	43	ISC 256547
1873	102	1			14	134	6805	15030	ULO L	06 07 963	F M CHAUVIN	68	ALA 23899
1873	102	1			14	134	6805	15030	ULO L	06 07 963	J A FLOCK	39	ALA 21752
1873	102	1			14	134	6814	15230	ULO L	27 07 956	I WIGGINS	13835	US 2264121
1873	102	1			14	136	6810	14530	ARCTIC VILLAGE	24 06 965	V L HARMS	3774	ALA 32618
1873	102	1			14	137	6822	14355	OLD WOMAN CR	14 06 956	B KESSEL	S13	ALA 5052
1873	102	1			14	137	6822	14355	OLD WOMAN CR	14 06 956	B KESSEL	S13	ALA 22872
1873	102	1			14	137	6822	14355	OLD WOMAN CR	14 06 956	B KESSEL	S13	ALA 22870
1873	102	1			14	137	6839	14100	FIRTH RIVER	16 06 961	E L LITTLE, JR.	18487	GWA
1873	102	1			14	138	6950	14220	NUVAGAPAK PT	08 08 966	G W ARGUS	5880	GWA
1873	102	1			14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5916	GWA
1873	102	1			14	139	6959	14454	COLLINSON PT	18 06 914	F JOHANSEN	47	CAN
1873	102	1			14	141	6923	15210	UMIAT	30 07 966	Y SUDA	28266	GWA
1873	102	1			14	142	6952	15350	IKPIKPUK R	04 09 947	R F BLACK		ISC 256534
1873	102	1			14	145	6946	16303	POINT LAY	06 08 938	J P ANDERSON	4419	ISC 256541
1873	102	1			14	145	6902	16350	CAPE BEAUFORT	25 7 966	G W ARGUS	5621	GWA
1873	102	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5606	GWA
1873	102	1			14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5398	GWA
1873	102	1			14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5535	GWA
1873	102	1			14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5397	GWA
1873	102	1			14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5519	GWA
1873	102	1			14	145	6912	16200	KOKOLIK R	30 08 947	R F BLACK		ISC 256537
1873	102	1			14	147	7030	15730	MEADE RIVER PO	17 07 966	G W ARGUS	5323	GWA
1873	102	1			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5250	GWA
1873	102	1			14	147	7030	15730	MEADE RIVER PO	17 07 966	G W ARGUS	5322	GWA
1873	102	1			14	147	7030	15730	MEADE RIVER PO	18 07 966	G W ARGUS	5344	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	102	1			14	147	7030	15730	MEADE RIVER PO	15 07 966	G W ARGUS	5251	GWA
1873	102	1			14	147	7031	15724	MEADE RIVER PO	19 08 960	O W GEIST		ALA 29189
1873	102	1			14	147	7000	15700	MEADE RIVER PO	06 08 960	O W GEIST		ALA 28183
1873	102	1			14	147	7031	15724	MEADE RIVER PO	06 08 960	O W GEIST		ALA 27678
1873	102	1			14	148	7049	15442	HALF MOON 3	30 08 947	R F BLACK		ISC 256536
1873	102	1			14	148	7047	15500	HALF MOON 3 RA	07 962	D L CHESEMORE	3	ALA 29358
1873	102	1			14	149	7033	15142	ATIGARU PT	29 08 947	R G BLACK		ISC 256538
1873	102	1			14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5726	GWA
1873	102	1			14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5728	GWA
1873	102	1			14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5727	GWA
1873	102	1			14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5725	GWA
1873	102	1			14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5868	GWA
1873	102	1			14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5869	GWA
1873	102	1			14	152	7005	14335	BARTER ISLAND	26 06 951	F S BARKALOW, JR.	P10	ISC 256539
1873	102	1			14	153	7123	15628	POINT BARROW	08 947	P F SCHOLANDER		ISC 256540
1873	102	1			14	153	7114	15656	BARROW	13 07 952	G H WARD	1117	ISC 224851
102 2	RETICULATA SSP. GLABELLICARPA												
1873	102	2			2	44	5305	13300	MOSQUITO LAKE	1 8 964	J A CALDER	36479	DAO 22233
1873	102	2			2	44	5340	13230	MCCINTON BAY	18 6 957	J A CALDER	21621	DAO 22232
1873	102	2			2	52	5245	13200	TAKAKTA LAKE	25 7 964	J A CALDER	36347	DAO 22234
1873	102	2			14	011	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6632	GWA
1873	102	2			14	011	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6620	GWA
1873	102	2			14	011	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6633	GWA
1873	102	2			14	011	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6645	GWA
1873	102	2			14	011	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6644	GWA
103 3	LANATA SSP. RICHARDSONII												
1873	103	3			2	2	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6736	GWA
1873	103	3			2	2	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6736	GWA
1873	103	3			2	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6770	GWA
1873	103	3			2	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6770	GWA
1873	103	3			2	2	5935	13627	HAINES RD M58	04 08 967	L A VIERECK	8537	GWA
1873	103	3			2	2	5935	13628	HAINES RD M56	04 08 967	L A VIERECK	8523	GWA
1873	103	3			2	2	5935	13628	HAINES RD M56		L A VIERECK	8525	GWA
1873	103	3			2	2	5950	13639	HAINES RD M83	04 08 967	L A VIERECK	8547	GWA
1873	103	3			2	4	5940	13327	BOULDER CR	09 06 960	J A CALDER	25205	ALA 17424
1873	103	3			2	16	5831	12434	SUMMIT PASS	19 07 943	H M RAUP	10669	ALA 19857
1873	103	3			7	133	6938	13254	TOKER PT	28 07 957	W J CODY	10337	DAO 32636
1873	103	3			7	133	6930	13347	RICHARDS IS	24 07 966	G W SCOTTER	10122	GWA
1873	103	3			7	134	6952	12900	MICHOLSON IS	18 07 965	G W SCOTTER	6942	GWA
1873	103	3			7	134	6938	12843	ANDERSON RIVER	21 07 965	G W SCOTTER	6950	GWA
1873	103	3			7	140	6903	10550	CAMBRIDGE BAY	20 07 938	C F GILLHAM	19	ISC 256621
1873	103	3			7	152	6818	13340	INUVIK	5 7 957	W J CODY	9849	DAO 5740
1873	103	3			7	152	6813	13554	CANOE L.	16 7 963	W J CODY	12806	DAO
1873	103	3			7	152	6820	13330	CAMPBELL L.	15 6 927	A E PORSILD	1903	CAN 48279
1873	103	3			7	208	6349	12728	BANANA L.	5 8 967	W J CODY	17506	DAO
1873	103	3			7	245	6543	11847	LEITH PEN. NE	19 7 948	H T SHACKLETTE	3090	CAN 199879
1873	103	3			7	306	6310	13008	MACMILLAN PASS	31 8 944	A E PORSILD	11227	CAN 48274
1873	103	3			7	307	6331	12840	JUNE L.	2 8 967	W J CODY	17288	DAO
1873	103	3			7	307	6305	12850	OGRADY L. NE	29 7 967	W J CODY	17005	DAO
1873	103	3			7	339	6205	12735	BRINTNELL L	05 07 939	H M RAUP	9373	ALA 14812
1873	103	3			7	339	6205	12735	BRINTNELL L	05 07 939	H M RAUP	9391	ALA 14760
1873	103	3			7	340	6242	12640	LITTLE DAL L.	6 8 967	W J CODY	17652	DAO
1873	103	3			7	367	6142	12710	HOLE-IN-WALL-L	10 8 967	W J CODY	17936	DAO
1873	103	3			12	2	6930	13920	FIRTH R.	6 8 953	E H MCEWEN	168	CAN 226060
1873	103	3			12	2	6922	13932	FIRTH RIVER	1 7 970	S L WELSH	10162A	OTF 1211
1873	103	3			12	4	6807	13928	BLACK FOX CR	20 7 970	J K RIGBY	97	OTF 1210
1873	103	3			12	5	6725	14100	RAMPART HOUSE	26 07 951	C C LOAN	666	GWA
1873	103	3			12	15	6404	13925	DAWSON	25 6 914	A EASTWOOD	385	CAN 48312
1873	103	3			12	17	6406	13914	HUNKER CR	24 7 902	J M MACOUN	S.N.	CAN 48308
1873	103	3			12	29	6241	13238	MT.SHELDON S.	7 8 944	A E PORSILD	11061	CAN 48294
1873	103	3			12	30	6238	13108	MT.SHELDON NE.	13 8 944	A E PORSILD	11073	CAN 48293
1873	103	3			12	32	6159	14033	WHITE R	21 07 944	J P ANDERSON	9315	ISC 256616
1873	103	3			12	32	6122	13859	BURWASH	03 08 948	H M RAUP	13934	ALA 19749
1873	103	3			12	35	6125	13300	CANOL RD MI 85	6 7 944	A E PORSILD	10166	CAN 48300
1873	103	3			12	35	6120	13300	ROSE R.	3 7 944	A E PORSILD	10274	CAN 48301
1873	103	3			12	35	6155	13238	LOWER LAPIE R.	14 6 944	A E PORSILD	9460	CAN 48296
1873	103	3			12	35	6140	13302	CANOL RD MI105	10 6 944	A E PORSILD	9292	CAN 48297
1873	103	3			12	35	6140	13302	ROSE LAPIE R	10 06 944	A E PORSILD	9300	ISC 256607
1873	103	3			12	35	6155	13238	LOWER LAPIE R	14 06 944	A E PORSILD	9460	ISC 256615
1873	103	3			12	39	6058	13829	KLUANE L	24 07 944	J P ANDERSON	9411	ISC 256604
1873	103	3			14	23	5353	16632	DUTCH HARBOR	29 05 938	J P ANDERSON	3151	ISC 255843
1873	103	3			14	41	5842	15639	KING SALMON	06 07 952	W R SCHOFIELD	2010	GWA
1873	103	3			14	67	6129	14253	KENNICOTT	27 05 955	G W ARGUS	83	GWA
1873	103	3			14	67	6137	14158	SKOLAI PASS	21 07 967	D F MURRAY	977	GWA
1873	103	3			14	67	6137	14201	SKOLAI RIVER	20 06 967	R W SCOTT	1611	GWA
1873	103	3			14	67	6137	14201	SKOLAI RIVER	04 07 967	R W SCOTT	1679	GWA
1873	103	3			14	67	6137	14201	SKOLAI RIVER	22 07 967	R W SCOTT	1799	GWA
1873	103	3			14	67	6137	14201	SKOLAI RIVER	20 06 967	R W SCOTT	1609	GWA
1873	103	3			14	67	6137	14201	SKOLAI RIVER	23 06 967	R W SCOTT	1619	GWA
1873	103	3			14	69	6156	14710	GLENN HWY M128	13 06 944	J P ANDERSON	8448	GWA
1873	103	3			14	69	6156	14710	GLENN HWY M128	15 06 944	J P ANDERSON	8484	GWA
1873	103	3			14	69	6156	14710	GLENN HWY M128	14 06 944	J P ANDERSON	8468	ISC 256012
1873	103	3			14	69	6156	14710	GLENN HWY M128	13 06 944	J P ANDERSON	8448	ISC 256601
1873	103	3			14	69	6156	14710	GLENN HWY M128	15 06 944	J P ANDERSON	8484	ISC 256600
1873	103	3			14	69	6156	14710	GLENN HWY M128	14 06 944	J P ANDERSON	8469	ISC 256602

Specimens Cited

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	103	3			14	69	6245	14915	WILLOW CR RD	28 06 941	J P ANDERSON	7003	TSC 256606
1873	103	3			14	69	6140	14900	MATANUSKA	940	L J PALMER	425	ALA 5222
1873	103	3			14	71	6152	15433	HEAD OF BIG R.	8 6 950	W H DRURY	3960	CAN
1873	103	3			14	71	6155	15425	HEAD OF BIG R.	10 7 950	W H DRURY	4071	CAN
1873	103	3			14	72	6132	15841	NAPAIMIUT	22 06 930	W R MILLER	271C	ALA 2025
1873	103	3			14	72	6132	15841	NAPAIMIUT	22 06 930	W R MILLER	271C	TSC 256605
1873	103	3			14	73	6137	15930	ANIAK	18 6 949	W H DRURY	1439	CAN
1873	103	3			14	75	6151	16535	SCAMMON BAY	16 06 961	E HULTEN		US 2384902
1873	103	3			14	77	6254	16353	HAMILTON	07 07 931	C H ROUSE	37	ALA 2041
1873	103	3			14	77	6254	16353	HAMILTON	07 07 931	C H ROUSE	37	ALA 25430
1873	103	3			14	78	6212	15946	HOLY CROSS	22 08 925	L J PALMER	1259	ALA 29319
1873	103	3			14	79	6259	15604	TAKOTNA	27 07 941	J P ANDERSON	7435	ALA 551
1873	103	3			14	79	6259	15604	TAKOTNA	27 07 941	J P ANDERSON	7435	TSC 256610
1873	103	3			14	80	6233	15336	FAREWELL MT.	8 8 949	W H DRURY	2739	CAN
1873	103	3			14	80	6257	15536	MCGRATH	23 8 949	W H DRURY	3157	CAN
1873	103	3			14	80	6257	15536	MCGRATH	23 8 949	W H DRURY	3142	CAN
1873	103	3			14	81	6219	15006	TALKEETNA	10 08 941	J P ANDERSON	7679	TSC 255972
1873	103	3			14	81	6240	15230	KUSKOKWIM R	18 06 961	L A VIERECK	5049	GWA
1873	103	3			14	81	6240	15230	KUSKOKWIM R	18 06 961	L A VIERECK	5049	FSLC
1873	103	3			14	84	6323	14345	ALA HWY M1345	12 08 944	H M RAUP	12809	ALA 19856
1873	103	3			14	85	6319	14236	TETLIN JCT	28 05 961	E L LITTLE, JR.	18248	GWA
1873	103	3			14	86	6347	14545	DONNELLY DOME	30 06 957	G W ARGUS	1065	GWA
1873	103	3			14	86	6357	14658	W FK LTL DELTA	06 941	L J PALMER	457	ALA 5624
1873	103	3			14	86	6357	14658	W FK LTL DELTA	06 941	L J PALMER	457	TSC 256613
1873	103	3			14	86	6333	14548	RICH HWY M227	27 06 947	E SCAMMAN	4509	GWA
1873	103	3			14	86	6315	14540	RAINBOW MT	05 08 965	L A VIERECK	7870	GWA
1873	103	3			14	86	6348	14545	DONNELLY DOME	25 07 967	L A VIERECK	8328	GWA
1873	103	3			14	87	6335	14935	IGLOO CR	28 07 956	G W ARGUS	693	ALA 4735
1873	103	3			14	87	6335	14935	IGLOO CR	28 07 956	G W ARGUS	693	GWA
1873	103	3			14	87	6340	14930	TEKLANIKA R	21 07 956	G W ARGUS	616	GWA
1873	103	3			14	87	6323	14836	CANTWELL	27 07 967	L A VIERECK	8392	GWA
1873	103	3			14	87	6323	14836	CANTWELL	27 07 967	L A VIERECK	8391	GWA
1873	103	3			14	87	6356	14728	DRY CR	23 06 962	L A VIERECK	5609	GWA
1873	103	3			14	87	6356	14728	DRY CR	29 06 962	L A VIERECK	5756	GWA
1873	103	3			14	87	6335	14845	CARLO	30 07 964	L A VIERECK	7411	FSLC 294
1873	103	3			14	88	6327	15052	MCKINLEY BAR	29 07 967	J FOOTE	LV8426	GWA
1873	103	3			14	88	6330	15003	TOKLAT	26 06 959	L SCHENE		ALA 25274
1873	103	3			14	88	6325	15047	WONDER LAKE	30 07 956	L A VIERECK	1620	ALA 11614
1873	103	3			14	88	6325	15047	WONDER LAKE	30 07 956	L A VIERECK	1620	GWA
1873	103	3			14	92	6331	16217	STEBBINS	20 06 938	J P ANDERSON	3499	ISC 256603
1873	103	3			14	92	6302	16318	PASTOLIAK	19 07 931	C H ROUSE	28	ALA 25435
1873	103	3			14	92	6302	16318	PASTOLIAK	19 07 931	C H ROUSE	28	ALA 2052
1873	103	3			14	94	6454	16503	SALMON LAKE	14 07 966	S L WELSH	5901	GWA
1873	103	3			14	94	6454	16503	SALMON LAKE	14 07 966	S L WELSH	5901	ISC 253615
1873	103	3			14	95	6437	16215	ELIM	31 08 938	J P ANDERSON	5121	ISC 256612
1873	103	3			14	100	6448	14755	CHENA PUMP RD	22 06 956	G W ARGUS	412	GWA
1873	103	3			14	100	6451	14743	FAIRBANKS	15 08 963	L A VIERECK	7063	FSLC 49
1873	103	3			14	101	6400	14530	CLEARWATER R	21 08 956	G W ARGUS	828	ALA 4899
1873	103	3			14	101	6400	14530	CLEARWATER R	21 08 956	G W ARGUS	828	GWA
1873	103	3			14	104	6522	14556	TWELVE MILE CR	18 06 957	S G SHETLER	76AF	ALA 3725
1873	103	3			14	104	6522	14543	STEESE HWY M92	22 06 957	S G SHETLER	173AF	ALA 3777
1873	103	3			14	104	6520	14550	STEESE HWY M88	25 07 964	L A VIERECK	7351	FSLC 307
1873	103	3			14	104	6559	14411	YUKON R	12 07 966	L A VIERECK	7727	FSLC
1873	103	3			14	105	6532	14833	LIVENGOOD	08 07 944	J P ANDERSON	8973	ISC 256609
1873	103	3			14	113	6655	16231	KOTZEBUE	11 08 966	G W ARGUS	5972	GWA
1873	103	3			14	113	6655	16240	KOTZEBUE	09 07 966	S L WELSH	5727	GWA
1873	103	3			14	113	6655	16240	KOTZEBUE	09 07 966	S L WELSH	5727	ISC 253687
1873	103	3			14	114	6658	16026	KIANA	04 06 937	O D CLARK	S.N.	ALA 10193
1873	103	3			14	115	6655	15652	KOBUK	18 07 924	L E RYNNING	1071	ALA 2030
1873	103	3			14	121	6710	14140	OLD RAMPART	21 07 957	J L BUCKLEY	180	ALA 26779
1873	103	3			14	121	6710	14140	OLD RAMPART	21 07 957	J L BUCKLEY	180	ALA 5078
1873	103	3			14	121	6710	14210	PORCUPINE R	27 07 957	J L BUCKLEY	212	ALA 5638
1873	103	3			14	121	6715	14140	PORCUPINE R	27 07 957	J L BUCKLEY	210	ALA 5099
1873	103	3			14	121	6710	14140	OLD RAMPART	21 07 957	J L BUCKLEY	180	GWA
1873	103	3			14	121	6710	14210	PORCUPINE R	27 07 957	J L BUCKLEY	212	GWA
1873	103	3			14	123	6700	15000	KOYUKUK R	01 08 940	E SCAMMAN	2241	ALA 8396
1873	103	3			14	123	6700	15000	KOYUKUK R	01 08 940	E SCAMMAN	2241	GWA
1873	103	3			14	123	6700	15000	KOYUKUK R	01 08 940	E SCAMMAN	2240	GWA
1873	103	3			14	124	6925	15007	WISEMAN	01 08 939	J P ANDERSON	5879	ALA 256611
1873	103	3			14	124	6925	15007	WISEMAN	01 08 939	J P ANDERSON	5879	ALA 27500
1873	103	3			14	124	6925	15007	WISEMAN	01 08 939	J P ANDERSON	5873	ISC 256614
1873	103	3			14	124	6728	15015	NOLAN CR	17 06 962	R BROCKMAN	S.N.	ALA 28513
1873	103	3			14	124	6925	15007	WISEMAN	08 06 962	R BROCKMAN	S.N.	ALA 28511
1873	103	3			14	124	6925	15007	WISEMAN	29 05 962	R BROCKMAN	F	ALA 28492
1873	103	3			14	124	6925	15007	WISEMAN	15 06 946	W JOHNSON	S.N.	ALA 10187
1873	103	3			14	124	6925	15007	WISEMAN	15 06 946	W JOHNSON	S.N.	ALA 27149
1873	103	3			14	124	6925	15007	WISEMAN	29 06 949	J H JORDAL	2057	ISC 256396
1873	103	3			14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5958	GWA
1873	103	3			14	129	6815	16532	KUKPUK R	06 08 964	H R MELCHIOR	611	GWA
1873	103	3			14	129	6845	16602	UKINYAK CR	01 08 960	L A VIERECK	4440	ALA 13225
1873	103	3			14	129	6845	16602	UKINYAK CR	30 07 960	L A VIERECK	4405	ALA 13227
1873	103	3			14	134	6808	15007	ULO VALLEY		W L CHENEY		ALA 32025
1873	103	3			14	136	6803	14500	OLD JOHN LAKE	08 08 957	S G SHETLER	1010AF	ALA 4291
1873	103	3			14	136	6803	14500	OLD JOHN LAKE	06 08 957	S G SHETLER	965AF	ALA 4261
1873	103	3			14	136	6803	14500	OLD JOHN LAKE	08 08 957	S G SHETLER	1010AF	GWA
1873	103	3			14	136	6803	14500	OLD JOHN LAKE	06 08 954	G SMITH	2554A	ALA 10739
1873	103	3			14	136	6803	14500	OLD JOHN LAKE	06 08 954	G SMITH	2554A	GWA
1873	103	3			14	137	6840	14101	FIRTH RIVER	10 08 961	E HULTEN		US 2384903
1873	103	3			14	137	6822	14355	SHEENJEK R	05 06 956	B KESSEL	54	ALA 3534
1873	103	3			14	137	6822	14355	SHEENJEK R	05 06 956	B KESSEL	54	ALA 3534
1873	103	3			14	137	6822	14355	SHEENJEK R	05 06 956	B KESSEL	54	ALA 3534

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	103	3			14	137	6822	14355	SHEENJEK R	05 06 956	B KESSEL	54	ALA 3534
1873	103	3			14	137	6839	14101	FIRTH RIVER	16 06 961	E L LITTLE, JR.	18492	GWA
1873	103	3			14	138	6950	14220	NUVAGAPAK PT	08 08 966	G W ARGUS	5879	GWA
1873	103	3			14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5913	GWA
1873	103	3			14	139	6930	14500	SADLEROCHIT R	02 08 948	L A SPETZMAN	1032	US 2032216
1873	103	3			14	141	6920	15210	UMIAT	22 06 951	J L BUCKLEY		ALA 5042
1873	103	3			14	141	6920	15210	UMIAT	22 06 951	J L BUCKLEY		GWA
1873	103	3			14	141	6922	15210	UMIAT	22 06 952	G LINDSAY	2256	US 2312671
1873	103	3			14	141	6922	15210	UMIAT	12 08 964	G WEST	V7509	GWA
1873	103	3			14	142	6952	15442	IKPIKPUK R	21 07 959	O W GEIST	S.N.	ALA 27930
1873	103	3			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5557	GWA
1873	103	3			14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5440	GWA
1873	103	3			14	145	6931	16245	KUKPOWRUK R	04 07 951	K CHAMBERS	110	US 2264235
1873	103	3			14	146	7008	15937	KETIK R	21 08 959	O W GEIST	S.N.	ALA 27591
1873	103	3			14	146	7008	15942	KUK RIVER	15 07 951	I WIGGINS	12723	US 2263928
1873	103	3			14	147	7030	15730	MEADE RIVER	15 07 966	G W ARGUS	5265	GWA
1873	103	3			14	147	7030	15730	MEADE RIVER	14 07 966	G W ARGUS	5192	GWA
1873	103	3			14	147	7030	15730	MEADE RIVER	18 07 966	G W ARGUS	5366	GWA
1873	103	3			14	147	7031	15724	MEADE R	19 08 960	O W GEIST		ALA 27616
1873	103	3			14	147	7028	15725	MEADE R	07 08 960	O W GEIST	S.N.	ALA 27869
1873	103	3			14	147	7031	15722	USUKTUK R	07 07 960	O W GEIST	S.N.	ALA 29140
1873	103	3			14	151	6905	14506	CANNING R	28 07 947	L A SPETZMAN	401	ISC 256618
1873	103	3			14	153	7120	15630	BARROW	21 07 959	O W GEIST	S.N.	ALA 28925

105 1 ROTUNDIFOLIA SSP. ROTUNDIFOLIA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	105	1			7	307	6305	12850	O GRADY LAKE	29 07 967	W J CODY	16889	DAO 32702
1873	105	1			7	307	6305	12850	O GRADY LAKE	27 07 967	W J CODY	16750	DAO 32699
1873	105	1			7	307	6317	12817	LTL DIVIDE L	26 07 967	W J CODY	16633	DAO 32701
1873	105	1			12	32	6127	13805	GLADSTONE CR	26 07 966	J A NEILSON	981	CAN 313089
1873	105	1			14	15	5132	17900E	SEA OTTER PT	27 07 967	W M KLEIN	2261	CS
1873	105	1			14	15	5132	17900E	SEA OTTER PT	27 07 967	W M KLEIN	2262	CS
1873	105	1			14	15	5132	17900E	SEA OTTER PT	27 07 967	W M KLEIN	2261	GWA
1873	105	1			14	15	5132	17900E	SEA OTTER PT	27 07 967	W M KLEIN	2262	GWA
1873	105	1			14	17	5150	17608	LTL TANAGA IS	07 950	T P BANK	4116	ALA 6720
1873	105	1			14	17	5155	17645	ADAK IS	25 06 966	V L HARMS	5253	ALA 32641
1873	105	1			14	17	5152	17637	SWEEPER COVE	14 09 949	L JORDAL	3244	US 2009694
1873	105	1			14	18	5207	17430	ATKA	30 06 932	W J EYERDAM	960	GH
1873	105	1			14	18	5207	17430	ATKA	30 06 932	W J EYERDAM	960	US 1631382
1873	105	1			14	18	5207	17430	ATKA	30 06 932	W J EYERDAM	960	ISC 256656
1873	105	1			14	18	5207	17430	ATKA	21 09 944	C L YORK	44363	ISC 256653
1873	105	1			14	23	5352	16632	UNALASKA	23 07 938	J P ANDERSON	4212	ISC 256654
1873	105	1			14	23	5352	16632	UNALASKA	02 08 932	E HULTEN	7205	GH
1873	105	1			14	23	5352	16632	UNALASKA	12 07 899	W JEPSON	159	US 887216
1873	105	1			14	27	5538	15940	FOX BAY	31 07 913	R GRIGGS		US 1072109
1873	105	1			14	34	5746	15312	TERROR BAY	16 08 950	W K CLARK		ISC 256655
1873	105	1			14	34	5730	15413	KODIAK REFUGIM	18 06 962	M - JOHNSON	83	WIS
1873	105	1			14	34	5746	15224	POPOF ISLAND	08 07 899	T KINCAID		US 378363
1873	105	1			14	34	5715	15330	SAINTS BAY	05 08 963	B H NYBAKKEN	1044	WIS
1873	105	1			14	34	5747	15247	KODIAK	20 08 900	F WALPOLE	1226	US 378197
1873	105	1			14	35	5705	15425	OLGA BAY	28 06 939	E LOOFF	932	A
1873	105	1			14	38	5710	17015	ST PAUL IS	08 07 941	L J COLE		ISC 256657
1873	105	1			14	38	5636	16932	ST GEORGE IS	24 06 923	E JOHNSTON		GH
1873	105	1			14	38	5636	16932	ST GEORGE IS	24 06 923	E JOHNSTON		GH 1289508
1873	105	1			14	39	5834	16146	CAPE PEIRCE	2 7 970	L DICK	236	GWA
1873	105	1			14	39	5834	16146	CAPE PEIRCE	11 6 970	L DICK	89	GWA
1873	105	1			14	50	5939	15128	PALMER CREEK	27 08 949	H LUTZ	404	NA 319224
1873	105	1			14	56	6024	17238	ST MATTHEW IS	16 07 938	J P ANDERSON	3949	ISC 256640
1873	105	1			14	56	6040	17306	HALL ISLAND	14 07 899	F COVILLE	2083	US 373502
1873	105	1			14	56	6024	17238	ST MATTHEW IS	01 07 966	V L HARMS	5387	GWA
1873	105	1			14	56	6024	17238	ST MATTHEW IS	01 07 966	V L HARMS	5387	ALA 32668
1873	105	1			14	56	6024	17238	ST MATTHEW IS	19 07 957	D R KLEIN	24	ALA 6584
1873	105	1			14	62	6013	15008	ICEBERG LAKE	04 07 951	D KLEIN	421	ISC 256637
1873	105	1			14	63	6006	14927	MARATHON MT	04 07 951	J CALDER	5639	GH
1873	105	1			14	63	6023	14950	COOPER MT	20 08 952	D KLEIN	173	ALA 23032
1873	105	1			14	64	6110	14540	WORTHINGTON GL	08 08 957	L A VIERECK	2210	GWA
1873	105	1			14	68	6059	14702	COLUMBIA GL	26 06 899	F COVILLE	1364	A
1873	105	1			14	68	6108	14547	THOMPSON PASS	01 08 967	L A VIERECK	8494	GWA
1873	105	1			14	69	6245	14515	WILLOW CR RD	28 06 941	J P ANDERSON	6997	ISC 256629
1873	105	1			14	69	6245	14515	WILLOW CR RD	12 07 931	J P ANDERSON	995	ISC 256633
1873	105	1			14	69	6245	14515	WILLOW CR RD	12 07 931	J P ANDERSON	995	ALA 27353
1873	105	1			14	69	6245	14515	WILLOW CR RD	07 08 949	G M FROHNE	49378	RM
1873	105	1			14	69	6245	14515	WILLOW CREEK	19 07 940	L PALMER	359	NA
1873	105	1			14	69	6140	14900	MATANUSKA VY	940	L J PALMER	390	ALA 5965
1873	105	1			14	69	6140	14900	MATANUSKA VY	940	L J PALMER	359	ALA 5985
1873	105	1			14	69	6104	14905	GIRDWOOD MINE	07 07 965	L A VIERECK	2046	GWA
1873	105	1			14	69	6146	14918	HATCHER PASS	16 07 965	S L WELSH	4716	ISC 247139
1873	105	1			14	82	6317	14631	MACLAREN GL	11 08 958	H T SHACKLETTE	5537	US 2387739
1873	105	1			14	82	6317	14631	MACLAREN GL	11 08 958	H T SHACKLETTE	5537	MICH
1873	105	1			14	86	6315	14530	GULKANA GL	19 07 957	G W ARGUS	1143	GWA
1873	105	1			14	86	6305	14622	PAXON	18 07 968	S L WELSH	8345	GWA
1873	105	1			14	87	6351	14858	HEALY	23 07 939	J P ANDERSON	5775B	ISC 256630
1873	105	1			14	87	6346	14900	MT HEALY	03 08 954	G M FROHNE	S.N.	RM
1873	105	1			14	87	6344	14855	MCKINLEY PARK	22 07 954	G M FROHNE	54546	ALA 21779
1873	105	1			14	88	6327	15052	MCKINLEY BAR	17 07 940	A MURIE	85	RM
1873	105	1			14	88	6325	15020	MCKINLEY PARK	11 08 939	A NELSON	4101	RM
1873	105	1			14	88	6325	15020	MCKINLEY PARK	11 08 939	A NELSON	4101	ISC 256628
1873	105	1			14	88	6325	15020	MCKINLEY PARK	11 08 939	A NELSON	4101	ALA 552
1873	105	1			14	88	6328	15014	STONY PASS		F A WARREN	2217	RM
1873	105	1			14	93	6322	17117	POWOOILIAK	17 08 933	O W GEIST	181	ALA 29424

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	105	1			14	93	6322	17117	POWOOILIAK	17 08 933	O W GEIST	180	ALA 29412
1873	105	1			14	93	6320	17136	BOXER BAY	27 06 933	O W GEIST		ALA 29427
1873	105	1			14	93	6320	17136	BOXER BAY I	27 06 933	O W GEIST	27	ALA 29419
1873	105	1			14	93	6342	17029	ST LAWRENCE IS	933	O W GEIST		ALA 29394
1873	105	1			14	93	6319	17127	SW CAPE	08 933	O W GEIST		ALA 29782
1873	105	1			14	93	6334	17053	KANGEE	933	O W GEIST		ALA 29723
1873	105	1			14	93	6336	17026	MT ATUK	17 07 933	O W GEIST		ALA 29394
1873	105	1			14	93	6322	17117	POWOOILIAK	17 08 933	O W GEIST		ALA 29718
1873	105	1			14	95	6426	16500	CAPE NOME	07 08 948	E LEPAGE	23828	ISC 256636
1873	105	1			14	104	6529	14525	EAGLE SUMMIT	07 07 937	E SCAMMAN	735	GWA
1873	105	1			14	104	6529	14525	EAGLE SUMMIT	20 07 947	E SCAMMAN	4761	GWA
1873	105	1			14	110	6536	16313	IMURUK LAKE	14 07 947	J G SIEH	46	ISC 256476
1873	105	1			14	111	6533	16751	TIN CITY	19 08 938	J P ANDERSON	4882	ISC 256639
1873	105	1			14	111	6516	16622	TELLER	08 08 901	F WALPOLE	1779	US 378891
1873	105	1			14	123	6735	14935	WIEHL MT	29 07 962	R BROCKMAN	59A	ALA 28552
1873	105	1			14	123	6735	14935	WIEHL MT	29 06 962	R BROCKMAN	59	ALA 28550
1873	105	1			14	128	6758	16432	KIVALINA	10 08 938	J P ANDERSON	4624	ISC 256638
1873	105	1			14	129	6853	16613	CAPE LISBURNE	07 08 938	J P ANDERSON	4495	ISC 256646
1873	105	1			14	129	6806	16545	OGOTORUK CR	11 08 966	G W ARGUS	5957	GWA
1873	105	1			14	129	6809	16559	CAPE THOMPSON	06 960	L H BELSON		ALA 28873
1873	105	1			14	129	6806	16545	OGOTORUK CR	17 06 959	A W JOHNSON	3	GWA
1873	105	1			14	129	6806	16545	OGOTORUK CR	18 06 959	A W JOHNSON	6	GWA
1873	105	1			14	129	6806	16545	OGOTORUK CR	20 06 959	A W JOHNSON	43	GWA
1873	105	1			14	129	6806	16545	OGOTORUK CR	17 06 959	A W JOHNSON	3	ALA 9161
1873	105	1			14	129	6806	16545	OGOTORUK CR	22 06 961	R JOHNSON	45	ALA 17681
1873	105	1			14	129	6806	16545	OGOTORUK CR	20 06 959	A W JOHNSON	71	ALA 9163
1873	105	1			14	129	6806	16545	OGOTORUK CR	18 06 959	A W JOHNSON	6	ALA
1873	105	1			14	129	6806	16545	OGOTORUK CR	25 06 959	A W JOHNSON	164	ALA 9179
1873	105	1			14	129	6806	16545	OGOTORUK CR	06 07 960	H P MELCHIOR	105	ALA 17761
1873	105	1			14	129	6839	16613	CAPE DYER	15 07 960	L A VIERECK	4073	ALA 13221
1873	105	1			14	129	6842	16615	CAPE DYER	20 07 960	L A VIERECK	4197	ALA 13220
1873	105	1			14	130	6855	16430	CAPE SABINE	13 07 959	S G SHETLER	3222	MICH
1873	105	1			14	130	6855	16430	CAPE SABINE	13 07 959	S G SHETLER	3276	MICH
1873	105	1			14	130	6855	16430	CAPE SABINE	14 07 959	S G SHETLER	3328	MICH
1873	105	1			14	136	6808	14532	ARCTIC VILLAGE	20 07 950	L H JORDAL	3641	MICH
1873	105	1			14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5906	GWA
1873	105	1			14	138	6950	14220	NUVAGAPAK PT	09 08 966	G W ARGUS	5904	GWA
1873	105	1			14	139	6923	14404	OKPILAK RIVER	08 08 957	J CANTLON	571925	GH
1873	105	1			14	139	6935	14445	SADLEROCHIT R	17 08 948	L A SPETZMAN	1167	US 2032289
1873	105	1			14	139	6940	14445	SUNSET PASS	13 08 948	L A SPETZMAN	1146	US 2032274
1873	105	1			14	139	6920	14500	LAKE PETERS	11 07 948	L A SPETZMAN	610	US 2032029
1873	105	1			14	139	6923	14604	EAGLE CR	05 08 947	L A SPETZMAN	426	ISC 256648
1873	105	1			14	140	6950	14815	FRANKLIN BLUFF	31 07 958	J W THOMSON		WIS
1873	105	1			14	145	6946	16303	POINT LAY	16 08 938	J P ANDERSON	4416	ISC 256643
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	28 7 966	G W ARGUS	5695	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5581	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5585	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5586	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5407	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5668	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5584	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5409	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5582	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5590	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	28 7 966	G W ARGUS	5695	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5442	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	23 07 966	G W ARGUS	5399	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5625	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5592	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5583	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5443	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5642	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5591	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5604	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5605	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5593	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	27 07 966	G W ARGUS	5637	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5587	GWA
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	04 08 961	K J STONE	961	RM
1873	105	1			14	145	6902	16350	CAPE BEAUFORT	05 08 961	K J STONE	1021	RM
1873	105	1			14	146	7038	16002	WAINWRIGHT	04 08 938	J P ANDERSON	4355	ISC 256644
1873	105	1			14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5232	GWA
1873	105	1			14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5230	GWA
1873	105	1			14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5228	GWA
1873	105	1			14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5229	GWA
1873	105	1			14	147	7030	15730	MEADE RIVER PO	14 07 966	G W ARGUS	5231	GWA
1873	105	1			14	147	7051	15848	PEARD BAY	06 08 947	R F BLACK	4768F	ISC 256244
1873	105	1			14	149	7033	15142	ATIGARU PT	29 08 947	R F BLACK		ISC 256651
1873	105	1			14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5756	GWA
1873	105	1			14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5821	GWA
1873	105	1			14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5723	GWA
1873	105	1			14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5749	GWA
1873	105	1			14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5744	GWA
1873	105	1			14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5764	GWA
1873	105	1			14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5854	GWA
1873	105	1			14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5851	GWA
1873	105	1			14	152	7005	14335	BARTER ISLAND	07 08 966	G W ARGUS	5855	GWA
1873	105	1			14	153	7120	15640	BARROW	03 08 938	J P ANDERSON	4300	ISC 256645
1873	105	1			14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5152	GWA
1873	105	1			14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5989	GWA
1873	105	1			14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5988	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	105	1			14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5996B	GWA
1873	105	1			14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	6000	GWA
1873	105	1			14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5996	GWA
1873	105	1			14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5996A	GWA
1873	105	1			14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5147	GWA
1873	105	1			14	153	7125	15630	POINT BARROW	11 08 966	G W ARGUS	5991	GWA
1873	105	1			14	153	7125	15630	POINT BARROW	10 07 966	G W ARGUS	5134	GWA
1873	105	1			14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5159	GWA
1873	105	1			14	153	7120	15640	BARROW	12 07 966	G W ARGUS	5174	GWA
1873	105	1			14	153	7120	15640	BARROW	12 07 966	G W ARGUS	5166	GWA
1873	105	1			14	153	7120	15640	BARROW	30 07 966	G W ARGUS	5705	GWA
1873	105	1			14	153	7120	15640	BARROW	12 07 966	G W ARGUS	5167	GWA
1873	105	1			14	153	7120	15640	BARROW	12 07 966	G W ARGUS	5169	GWA
1873	105	1			14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5168	GWA
1873	105	1			14	153	7120	15640	BARROW	31 07 966	G W ARGUS	5718	GWA
1873	105	1			14	153	7120	15640	BARROW	11 07 966	G W ARGUS	5160	GWA
1873	105	1			14	153	7110	15600	BARROW	08 08 946	R F BLACK		ISC 256647
1873	105	1			14	153	7115	15651	BARROW	20 07 950	R F BLACK	16	ISC 256652
1873	105	1			14	153	7049	15442	POINT BARROW	30 08 947	R F BLACK		ISC 256649
1873	105	1			14	153	7120	15640	BARROW	30 07 947	R O BLACK	47ABK	ISC 256650
1873	105	1			14	153	7118	15646	BARROW	04 08 959	O W GEIST		ALA 29182
1873	105	1			14	153	7030	15600	POINT BARROW	04 08 960	O W GEIST		ALA 28096
1873	105	1			14	153	7125	15630	POINT BARROW	01 08 961	K J STONE	835	RM
1873	105	1			14	153	7120	15640	BARROW	24 06 961	K J STONE	625	RM
1873	105	1			14	153	7108	15701	BARROW	20 07 950	J THOMAS	2079	GH
1873	105	1			14	153	7116	15640	BARROW	08 07 950	H J THOMPSON	1150	RM
1873	105	1			14	153	7115	15651	BARROW	13 07 952	G H WARD	1105	RM
1873	105	1			14	153	7115	15651	BARROW	13 07 952	G H WARD	1106	ISC 224822
1873	105	1			14	153	7115	15651	BARROW	13 07 952	G H WARD	1105	ISC 224821
1873	105	1			14	153	7120	15640	POINT BARROW	07 07 966	S L WELSH	5695	GWA
1873	105	1			14	153	7120	15640	BARROW	04 08 952	I L WIGGINS	12921	RM
105 2	ROTUNDIFOLIA SSP. DODGEANA												
1873	105	2			7	170	6757	13627	RICHARDSON MTS	14 07 962	J A CALDER	34147	DAO 32721
1873	105	2			7	274	6427	12801	BOLSTEAD CR	26 07 944	A E PORSILD	8274	CAN 46063
1873	105	2			7	274	6427	12801	BOLSTEAD CR	26 7 944	A E PORSILD	8274	CAN 46063
1873	105	2			7	275	6430	12755	CANOL RD M82E	09 09 944	A E PORSILD	11800	CAN 46062
1873	105	2			7	275	6430	12755	CANOL RD MI82E	9 9 944	A E PORSILD	11800	CAN 46062
1873	105	2			7	307	6308	12816	LTL DIVIDE L	26 07 967	W J CODY	16698	DAO 32716
1873	105	2			7	308	6349	12728	BACKBONE RANGE	05 08 967	W J CODY	17494	DAO 32717
1873	105	2			7	308	6328	12723	SEKWI BROOK	6 9 944	A E PORSILD	11861	CAN 46061
1873	105	2			7	313	6328	12834	SEKWI BROOK	06 09 944	A E PORSILD	11861	CAN 46061
1873	105	2			7	339	6255	12638	REDSTONE R	15 06 963	E KVALE	24	DAO 32720
1873	105	2			7	339	6255	12638	REDSTONE R	04 07 963	E KVALE	91	DAO 32719
1873	105	2			7	339	6224	12714	MACKENZIE MTS.	963	E R ROWLANDS	44	DAO
1873	105	2			12	32	6103	13831	KLUANE L	24 07 944	J P ANDERSON	9410B	ISC 256641
1873	105	2			12	32	6115	14010	STEELE GL	08 08 967	D F MURRAY	1429	GWA
1873	105	2			12	32	6115	14010	STEELE GLACIER	8 8 967	D F MURRAY	1429	GWA
1873	105	2			12	32	6103	13831	KLUANE L	02 07 944	H M RAUP	12167	ALA 19719
1873	105	2			12	32	6103	13831	KLUANE L	02 07 944	H M RAUP	12168	ALA 19720
1873	105	2			12	39	6055	13843	SLIMS RIVER	27 06 967	D F MURRAY	798	GWA
1873	105	2			12	39	6055	13843	SLIMS RIVER	09 07 967	D F MURRAY	918	GWA
1873	105	2			12	39	6049	13844	OBSERVATION MT	06 07 966	D F MURRAY	514	GWA
1873	105	2			12	39	6059	13830	SLIMS RIVER	26 06 962	L A SPETZMAN	114	CAN 274620
1873	105	2			14	69	6245	14515	WILLOW CR RD	28 06 941	J P ANDERSON	6997	ISC 256629
1873	105	2			14	69	6146	14918	HATCHER PASS	16 07 965	S L WELSH	4709	ISC 247096
1873	105	2			14	86	6332	14550	RAPIDS RH	12 07 935	J P ANDERSON	2221	ISC 256634
1873	105	2			14	86	6348	14436	UPPER DRY CR	02 08 957	L A SPETZMAN	977A	ALA 6871
1873	105	2			14	88	6318	15018	MULDROW GL	17 07 956	L A VIERECK	1370	ALA 3502
1873	105	2			14	88	6318	15018	MULDROW GL	17 07 956	L A VIERECK	1370	GWA
1873	105	2			14	88	6318	15018	MULDROW GL	17 07 956	L A VIERECK	1370	GH
1873	105	2			14	94	6430	16520	NOME	06 08 926	A E PORSILD	1328	CAN 46055
1873	105	2			14	105	6535	14725	WHITE MTS	12 07 953	O GJAEREVOLL	537	CAN 225053
1873	105	2			14	124	6725	15006	WISEMAN	01 08 939	J P ANDERSON	5874	ALA 27554
1873	105	2			14	124	6725	15006	WISEMAN	01 08 939	J P ANDERSON	5874	ISC 256631
1873	105	2			14	124	6725	15006	WISEMAN	05 07 949	L H JORDAL	2223	US 2000395
1873	105	2			14	131	6847	16000	LAKE NOLUCK	02 08 950	L A SPETZMAN	4335	NA 329290
1873	105	2			14	139	6920	14500	LAKE PETERS	22 07 959	S G SHETLER	3416	MICH
1873	105	2			14	140	6925	14910	SADLEROCHIT R	30 07 948	L A SPETZMAN	968	CAN 212040
1873	105	2			14	140	6925	14910	SADLEROCHIT R	30 07 948	L A SPETZMAN	968	NA 321726
109	SCOULERIANA												
1873	109				2	2	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6739	GWA
1873	109				2	16	5831	12434	SUMMIT PASS	22 07 943	H M RAUP	10761	ALA 19836
1873	109				2	17	5830	12245	PROPHET RIVER	21 06 966	G W ARGUS	4968	GWA
1873	109				2	17	5850	12235	FORT NELSON	20 05 949	J M GILLETT	3003	ISC 256666
1873	109				2	24	5705	12235	BEATTON R	12 06 943	H M RAUP	10038	ALA 19835
1873	109				2	24	5705	12235	BEATTON R	13 06 943	H M RAUP	10078	ALA 19842
1873	109				2	31	5625	12040	TAYLOR	08 06 943	H M RAUP	10010	ALA 19854
1873	109				2	35	5530	12245	PINE RIVER.	7 6 967	G W ARGUS	6071	GWA
1873	109				2	35	5530	12245	PINE RIVER.	7 6 967	G W ARGUS	6066	GWA
1873	109				2	40	5445	12700	MACLURE LAKE.	8 6 967	G W ARGUS	6087	GWA
1873	109				2	40	5445	12700	MACLURE LAKE.	8 6 967	G W ARGUS	6086	GWA
1873	109				2	40	5445	12700	MACLURE LAKE.	8 6 967	G W ARGUS	6088	GWA
1873	109				2	44	5340	13245	GRAHAM IS	20 07 957	J A CALDER	22743	GWA
1873	109				2	44	5340	13245	GRAHAM IS	07 06 957	J A CALDER	21298	GWA
1873	109				2	44	5310	13201	SKIDEGATE	09 06 957	J A CALDER	21345	GWA

Specimens Cited

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	109				2	44	5315	13205	Q CHARLOTTE	13 07 957	J A CALDER	22469	GWA
1873	109				2	46	5330	12830	SKEENA RIVER.	22 07 967	G W ARGUS	6846	GWA
1873	109				2	46	5330	12830	SKEENA RIVER.	22 07 967	G W ARGUS	6847	GWA
1873	109				2	52	5230	13120	MORESBY ISLAND	06 07 957	J A CALDER	22186	GWA
1873	109				2	52	5302	13155	MORESBY ISLAND	28 06 957	J A CALDER	21903	GWA
1873	109				7	339	6205	12735	BRINTNELL L	20 06 939	H M RAUP	9146	ALA 14833
1873	109				7	339	6205	12735	BRINTNELL L	22 06 939	H M RAUP	9234	ALA 14832
1873	109				7	388	6030	12328	LIARD R VALLEY	8 8 959	W W JEFFREY	497	CAN 260975
1873	109				7	388	6010	12330	LIARD R VALLEY	20 7 959	W W JEFFREY	297	CAN 260972
1873	109				12	5	6725	14059	RAMPART HOUSE	01 06 951	C C LOAN	386	GWA
1873	109				12	15	6400	13945	BEAR CREEK	4 7 948	J D CAMPBELL	296	CAN 126893
1873	109				12	24	6310	13008	MACMILLAN PASS	31 8 944	A E PORSILD	11221	CAN 49501
1873	109				12	27	6244	13641	DAWSON RD M162	15 05 960	J A CALDER	24436	GWA
1873	109				12	27	6205	13618	CARMACKS	16 06 932	W SETCHELL	367	NA 332716
1873	109				12	34	6137	13553	CONGLMERATE MT	14 05 960	J A CALDER	24403	GWA
1873	109				12	35	6145	13300	ROSE-LAPIE R.	29 6 944	A E PORSILD	10126	CAN 49507
1873	109				12	35	6155	13238	LOWER LAPIE R.	15 6 944	A E PORSILD	9507	CAN 49506
1873	109				12	35	6130	13302	UPPER ROSE R.	17 7 944	A E PORSILD	10451	CAN 49508
1873	109				12	35	6155	13238	CANOL RD M132	15 06 944	A E PORSILD	9508	TSC 256675
1873	109				12	35	6155	13238	CANOL RD M132	15 06 944	A E PORSILD	9507	TSC 256672
1873	109				12	35	6155	13238	CANOL RD M132	30 06 944	A E PORSILD	10033	TSC 256674
1873	109				12	40	6045	13630	DEZADEASH R.	20 6 967	A M PEARSON	67-109	CAN 316890
1873	109				12	40	6045	13730	HAINES JCT.	13 6 965	A M PEARSON	318	CAN 293825
1873	109				12	41	6010	13442	CARCROSS	25 8 951	A E PORSILD	18459	CAN 208680
1873	109				12	41	6043	13503	WHITEHORSE	01 06 944	A E PORSILD	9144	TSC 256673
1873	109				12	41	6032	13423	ALA HWY M886	24 06 966	S L WELSH	5515	GWA
1873	109				12	42	6054	13258	NISUTLIN R.	23 7 944	A E PORSILD	10791	CAN 49509
1873	109				12	42	6016	13255	TESLIN LAKE	02 07 968	S L WELSH	7615	GWA
1873	109				12	43	6006	13035	RANCHERIA	22 06 948	J P ANDERSON	10467	TSC 256390
1873	109				12	43	6006	13035	RANCHERIA	22 08 966	G W ARGUS	6014	GWA
1873	109				12	43	6006	13035	RANCHERIA	22 08 966	G W ARGUS	6015	GWA
1873	109				12	44	6007	12848	WATSON LAKE	07 07 949	J M GILLETT	3623	TSC 256660
1873	109				14	3	5531	13139	KETCHIKAN	01 08 927	J P ANDERSON	28506	TSC 256200
1873	109				14	3	5526	13140	KETCHIKAN.	9 6 967	G W ARGUS	6089	GWA
1873	109				14	3	5527	13153	GUARD ISLANDS	07 08 901	J FLETT	1896	NA 332913
1873	109				14	3	5531	13139	KETCHIKAN	22 06 931	W SETCHELL	3	NA 320470
1873	109				14	3	5531	13139	KETCHIKAN	09 06 932	W SETCHELL	273	US 1566845
1873	109				14	3	5527	13149	PT HIGGINS	10 08 967	L A VIERECK	8710	GWA
1873	109				14	3	5526	13146	WHIPPLE CREEK	10 08 967	L A VIERECK	8703	GWA
1873	109				14	4	5529	13239	HOLLIS	23 08 967	R M HURD	591	GWA
1873	109				14	4	5529	13239	HOLLIS	23 08 957	R M HURD	591	GWA
1873	109				14	6	5628	13223	WRANGELL. MI.	21 7 967	G W ARGUS	6844	GWA
1873	109				14	6	5648	13258	PETERSBURG.	19 4 967	G W ARGUS	6840	GWA
1873	109				14	11	5840	13410	TAKU B-NUNATAK	10 08 966	R BESCHEL	15484	GWA
1873	109				14	45	5427	13519	SKAGWAY	25 07 934	J P ANDERSON	1772	TSC 256658
1873	109				14	45	5926	13612	BIG BOULDER CR	12 7 967	G W ARGUS	6693	GWA
1873	109				14	45	5926	13612	BIG BOULDER CR	12 7 967	G W ARGUS	6691	GWA
1873	109				14	45	5926	13612	BIG BOULDER CR	12 7 967	G W ARGUS	6690	GWA
1873	109				14	45	5928	13602	MOSQUITO LAKE.	11 7 967	G W ARGUS	6675	GWA
1873	109				14	45	5926	13612	BIG BOULDER CR	12 7 967	G W ARGUS	6696	GWA
1873	109				14	45	5907	13520	HAINES, MI. 6	13 7 967	G W ARGUS	6751	GWA
1873	109				14	45	5907	13520	HAINES, MUD BA	13 7 967	G W ARGUS	6741	GWA
1873	109				14	45	5907	13520	HAINES, MUD BA	13 7 967	G W ARGUS	6742	GWA
1873	109				14	45	5927	13519	SKAGWAY	14 05 961	E L LITTLE, JR.	18109	GWA
1873	109				14	45	5927	13519	SKAGWAY	15 05 961	E L LITTLE, JR.	18121	GWA
1873	109				14	45	5913	13525	HAINES	03 08 967	L A VIERECK	8506	GWA
1873	109				14	45	5928	13602	MOSQUITO L	08 06 965	S L WELSH	4045	TSC 246236
1873	109				14	50	5936	15110	ISMAILOF IS	10 06 961	E L LITTLE, JR.	18408	GWA
1873	109				14	50	5939	15132	HOMER	13 06 967	L A VIERECK	8268	GWA
1873	109				14	62	6029	15103	SOLDOTNA	02 09 950	J CHRIST	20127	NA 322259
1873	109				14	62	6033	15116	KENAI	15 07 949	H LUTZ	36	NA 332911
1873	109				14	63	6007	14925	RESURRECTION B	16 05 951	J A CALDER	4902	GWA
1873	109				14	63	6024	14922	KENAI LAKE	03 06 951	J A CALDER	5044	GWA
1873	109				14	63	6024	14922	KENAI LAKE	22 05 951	J A CALDER	4906	GWA
1873	109				14	63	6047	14926	HOPE JUNCTION	17 06 967	L A VIERECK	8245	GWA
1873	109				14	63	6037	14931	SUMMIT LAKE	12 06 967	L A VIERECK	8256	GWA
1873	109				14	63	6031	14936	STERL HWY M41	12 06 967	L A VIERECK	8255	GWA
1873	109				14	67	6126	14256	MCCARTHY	08 06 961	E L LITTLE, JR.	18372	GWA
1873	109				14	68	6157	14517	COPPER CENTER	08 06 961	E L LITTLE, JR.	18302	GWA
1873	109				14	68	6131	14426	CHITINA	25 06 931	W SETCHELL	48	NA 320468
1873	109				14	68	6101	14501	COPPER R FLATS	960	A SHEETS	S.N.	ALA 25133
1873	109				14	68	6101	14501	COPPER R FLATS	960	A SHEETS	S.N.	ALA 25123
1873	109				14	68	6111	14547	WORTHINGTON GL	01 08 967	L A VIERECK	8474	GWA
1873	109				14	68	6133	14525	RICH HWY M70	01 08 967	L A VIERECK	8462	GWA
1873	109				14	69	6148	14828	CHICKALOON	07 07 948	J P ANDERSON	10539	TSC 256676
1873	109				14	69	6113	14953	ANCHORAGE	15 06 947	DUTILLY	20026	TSC 256663
1873	109				14	69	6113	14953	ANCHORAGE	29 06 948	E LEPAGE	23373	TSC 256662
1873	109				14	69	6115	14941	FT RICHARDSON	15 06 948	L A SPETZMAN		MIN
1873	109				14	69	6148	14745	GLENN HWY M102	10 06 967	L A VIERECK	8216	GWA
1873	109				14	69	6127	14922	EKLUTNA R	14 06 967	L A VIERECK	8281	GWA
1873	109				14	70	6145	15003	WILLOW	28 06 941	J P ANDERSON	7011	TSC 256659
1873	109				14	79	6259	15609	TAKOTNA	26 07 941	J P ANDERSON	7415	ALA 553
1873	109				14	79	6259	15609	TAKOTNA	26 07 941	J P ANDERSON	7415	TSC 256661
1873	109				14	79	6257	15630	OPHIR REGION	10 9 949	W H DRURY	3472	CAN
1873	109				14	80	6254	15530	KUSKOKWIM R.	25 8 949	W H DRURY	3186	CAN
1873	109				14	80	6255	15509	KUSKOKWIM R.	9 8 950	W H DRURY	4536	CAN
1873	109				14	80	6255	15509	KUSKOKWIM R.	9 8 950	W H DRURY	4535	CAN
1873	109				14	80	6254	15530	KUSKOKWIM R.	25 8 950	W H DRURY	3187	CAN
1873	109				14	81	6220	15006	TALKEETNA	10 08 941	J P ANDERSON	7678	TSC 256677
1873	109				14	83	6220	14630	LAKE LOUISE	05 06 961	E L LITTLE, JR.	18365	GWA
1873	109				14	84	6255	14342	MENTASTA PASS	28 05 961	E L LITTLE, JR.	18257	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	109				14	85	6332	14225	TETLIN JCT	28 05 961	E L LITTLE, JR.	18235	GWA
1873	109				14	85	6320	14258	TOK JUNCT	08 08 944	H M RAUP	12719	ALA 19853
1873	109				14	86	6347	14545	DONNELLY DOME	30 06 957	G W ARGUS	1061	GWA
1873	109				14	86	6345	14443	TANANA R V	10 08 944	H M RAUP	12773	ALA 19837
1873	109				14	86	6335	14430	UPPER BERRY CR	03 08 957	L A SPETZMAN	1020	ALA 6842
1873	109				14	86	6348	14545	DONNELLY DOME	25 07 967	L A VIERECK	8326	GWA
1873	109				14	86	6358	14545	FT GREELY	02 06 964	L A VIERECK	7152	FSLC
1873	109				14	86	6358	14545	FT GREELY	02 06 964	L A VIERECK	7408	FSLC
1873	109				14	88	6337	15001	CURRY	17 08 939	A NELSON	4173	ALA 255986
1873	109				14	88	6337	15001	CURRY	17 08 939	A NELSON	4173	ISC 556
1873	109				14	89	6315	15442	NIXON MINE	4 9 949	W H DRURY	3332	CAN
1873	109				14	89	6315	15442	NIXON MINE	4 9 949	W H DRURY	3377	CAN
1873	109				14	89	6315	15442	NIXON MINE	4 9 949	W H DRURY	3374	CAN
1873	109				14	89	6315	15442	NIXON MINE	4 9 949	W H DRURY	3371	CAN
1873	109				14	89	6315	15442	NIXON MINE	4 9 949	W H DRURY	3364	CAN
1873	109				14	98	6445	15530	RUBY	23 06 932	W SETCHELL	448	NA 315821
1873	109				14	100	6451	14759	COLLEGE	10 08 957	G W ARGUS	1159	ALA 6802
1873	109				14	100	6451	14759	COLLEGE	10 08 957	G W ARGUS	1157	ALA 6817
1873	109				14	100	6447	14805	ESTER	17 08 957	G W ARGUS	1177	ALA 6795
1873	109				14	100	6447	14805	ESTER	17 08 957	G W ARGUS	1178	ALA 6813
1873	109				14	100	6453	14752	SMITH L	04 08 956	G W ARGUS	726	ALA 4570
1873	109				14	100	6454	14751	COLLEGE	11 08 957	G W ARGUS	1170	ALA 6796
1873	109				14	100	6454	14751	COLLEGE	31 07 957	G W ARGUS	1152	ALA 6792
1873	109				14	100	6451	14759	COLLEGE	10 08 957	G W ARGUS	1160	ALA 6825
1873	109				14	100	6451	14752	UNIV EXP FARM	22 06 956	G W ARGUS	426	ALA 4096
1873	109				14	100	6453	14800	SHEEP CR	03 07 956	G W ARGUS	477	ALA 4844
1873	109				14	100	6447	14805	ESTER	17 08 957	G W ARGUS	1177	GWA
1873	109				14	100	6447	14805	ESTER	17 08 957	G W ARGUS	1178	GWA
1873	109				14	100	6453	14752	SMITH L	04 08 956	G W ARGUS	726	GWA
1873	109				14	100	6454	14751	COLLEGE	11 08 957	G W ARGUS	1170	GWA
1873	109				14	100	6454	14751	COLLEGE	31 07 957	G W ARGUS	1152	GWA
1873	109				14	100	6451	14759	COLLEGE	10 08 957	G W ARGUS	1160	GWA
1873	109				14	100	6451	14752	UNIV EXP FARM	22 06 956	G W ARGUS	426	GWA
1873	109				14	100	6453	14800	SHEEP CR	03 07 956	G W ARGUS	477	GWA
1873	109				14	100	6451	14759	COLLEGE	10 08 957	G W ARGUS	1159	GWA
1873	109				14	100	6451	14759	COLLEGE	10 08 957	G W ARGUS	1157	GWA
1873	109				14	100	6451	14748	COLLEGE	18 05 949	G GUILSHER	3	ALA 3103
1873	109				14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	192	ALA 5280
1873	109				14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	164	ALA 5274
1873	109				14	100	6451	14743	FAIRBANKS	06 933	L J PALMER	171	ALA 5275
1873	109				14	100	6451	14743	FAIRBANKS	17 06 933	L J PALMER	202	ALA 5993
1873	109				14	100	6451	14743	FAIRBANKS	20 07 931	L J PALMER	11	ALA 25554
1873	109				14	100	6451	14743	FAIRBANKS	20 07 931	L J PALMER	11	ALA 5969
1873	109				14	100	6451	14743	FAIRBANKS	20 07 931	L J PALMER	12	ALA 5970
1873	109				14	100	6452	14749	COLLEGE	16 05 967	L A VIERECK	8191	GWA
1873	109				14	100	6451	14752	COLLEGE	24 06 967	L A VIERECK	8184	GWA
1873	109				14	100	6451	14752	COLLEGE	06 05 967	L A VIERECK	8184	GWA
1873	109				14	100	6446	14816	FAIRBANKS	02 06 967	L A VIERECK	8287B	GWA
1873	109				14	101	6453	14656	HOT SPS RD M23	23 07 967	L A VIERECK	8321	GWA
1873	109				14	101	6453	14656	HOT SPS RD M23	18 05 965	L A VIERECK	7531	FSLC
1873	109				14	101	6453	14656	HOT SPS RD M23	18 05 965	L A VIERECK	7530	FSLC
1873	109				14	105	6515	14810	WICKERSHAM DOM	24 08 957	G W ARGUS	1198	ALA 6935
1873	109				14	105	6515	14810	WICKERSHAM DOM	24 08 957	G W ARGUS	1199	ALA 6938
1873	109				14	105	6515	14810	WICKERSHAM DOM	24 08 957	G W ARGUS	1198	GWA
1873	109				14	105	6515	14810	WICKERSHAM DOM	24 08 957	G W ARGUS	1199	GWA
113	SETCHELLIANA												
1873	113				12	32	6103	13825	KLUANE LAKE	25 07 944	J P ANDERSON	9493	ISC 255968
1873	113				12	32	6137	13945	DONJEK R	27 06 948	J P ANDERSON	10515	ISC 255966
1873	113				12	32	6137	13945	DONJEK R	27 06 946	J P ANDERSON	10321	ISC 255965
1873	113				12	32	6103	13822	KLUANE LAKE	19 06 966	D F MURRAY	365	GWA
1873	113				12	32	6122	13859	BURWASH LDG	02 07 948	H M RAUP	13306	ALA 19725
1873	113				12	32	6122	13859	BURWASH LDG	05 07 944	H M RAUP	12271	ALA 19724
1873	113				12	32	6122	13859	BURWASH LDG	02 07 948	H M RAUP	13306	GWA
1873	113				12	32	6122	13859	BURWASH LDG	05 07 944	H M RAUP	12271	GWA
1873	113				12	32	6125	13910	DUKE R	29 06 962	L A SPETZMAN	113	CAN
1873	113				12	32	6120	13845	JACQUOT IS	29 06 962	L A SPETZMAN	112	CAN
1873	113				12	32	6103	13823	KLUANE LAKE	04 07 968	S L WELSH	7852	GWA
1873	113				12	40	6040	13750	ALSEK R	03 06 965	A M PEARSON	55	CAN
1873	113				12	40	6045	13735	ALSEK R	05 07 957	W P SCHOFIELD	7568	CAN
1873	113				14	46	5910	13823	ALSEK R	10 06 965	L A VIERECK	7608	GWA
1873	113				14	46	5910	13823	ALSEK R	10 06 965	L A VIERECK	7608	FSLC 336
1873	113				14	67	6105	14200	CHITINA R	27 05 925	H LAING		CAN
1873	113				14	69	6132	14914	MATANUSKA	10 07 931	J P ANDERSON	884	ALA 18348
1873	113				14	69	6136	14906	PALMER	10 06 944	J P ANDERSON	8431	ALA 554
1873	113				14	69	6136	14906	PALMER	10 06 944	J P ANDERSON	8431	GWA
1873	113				14	69	6132	14914	MATANUSKA	10 07 931	J P ANDERSON	884	ISC 255967
1873	113				14	69	6136	14906	PALMER	10 06 944	J P ANDERSON	8431	ISC 255969
1873	113				14	69	6136	14906	PALMER	02 07 949	E LEPAGE	25242	CAN
1873	113				14	71	6155	15425	HEAD OF BIG R.	7 7 950	W H DRURY	3973	CAN
1873	113				14	71	6155	15425	HEAD OF BIG R.	9 7 950	W H DRURY	4032	CAN
1873	113				14	80	6231	15353	FAREWELL	14 8 949	W H DRURY	2892	CAN
1873	113				14	80	6230	15340	FAREWELL LAKE	8 8 949	W H DRURY	3036	CAN
1873	113				14	81	6240	15230	TONZONA R	14 06 961	L A VIERECK	5000	LAV
1873	113				14	82	6228	15115	KAHILTNA GL	27 06 956	L A VIERECK	1054	ALA 3498
1873	113				14	82	6228	15115	KAHILTNA GL	27 06 956	L A VIERECK	1054	GWA
1873	113				14	85	6345	14353	TANANA R	10 07 957	L A SPETZMAN	S.N.	ALA 6847
1873	113				14	86	6346	14445	TANANA R	08 961	L A SPETZMAN	4633	CAN
1873	113				14	86	6342	14435	TANANA RIVER	10 07 957	L A SPETZMAN	506	CAN

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	113				14	86	6342	14435	TANANA RIVER	10 07 957	L A SPETZMAN	506	US 2349813
1873	113				14	87	6340	14930	TEKLANIKA R	28 07 956	G W ARGUS	694	ALA 4521
1873	113				14	87	6340	14930	TEKLANIKA R	28 07 956	G W ARGUS	694	GWA
1873	113				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	695	ALA 22493
1873	113				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	685	ALA 4520
1873	113				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	686	ALA 4516
1873	113				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	685	GWA
1873	113				14	88	6330	15004	TOKLAT R	27 07 956	G W ARGUS	686	GWA
1873	113				14	88	6325	15032	MULDROW GL	31 08 932	D KAYE	1	US 2441267
1873	113				14	88	6326	15015	THOROFARE PASS	12 07 928	Y MEXIA	2095	ALA 10195
1873	113				14	88	6325	15032	MULDROW GL	12 07 932	W A SETCHELL	587	US 2441268
1873	113				14	88	6325	15032	MULDROW GL	12 07 932	W A SETCHELL	587	WIS
1873	113				14	88	6324	15020	THOROFARE R	04 07 956	L A VIERECK	1098	ALA 11620
1873	113				14	88	6325	15035	MULDROW GL	25 06 958	L A VIERECK	3066	GWA
1873	113				14	88	6325	15030	THOROFARE R	02 08 964	L A VIERECK	7419	FSLC 284
1873	113				14	108	6416	14519	TANANA R	29 05 965	L A VIERECK	7560	GWA
116	SITCHENSIS												
1873	116				2	1	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6731	GWA
1873	116				2	2	5941	13632	CHILKAT PASS.	13 7 967	G W ARGUS	6815	GWA
1873	116				2	2	5941	13632	CHILKAT PASS.	13 7 967	G W ARGUS	6815	GWA
1873	116				2	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6800	GWA
1873	116				2	35	5530	12245	PINE RIVER.	7 6 967	G W ARGUS	6070	GWA
1873	116				2	35	5530	12245	PINE RIVER.	7 6 967	G W ARGUS	6067	GWA
1873	116				2	35	5530	12245	PINE RIVER.	7 6 967	G W ARGUS	6068	GWA
1873	116				2	49	5320	12245	PRINCE GEORGE.	7 6 967	G W ARGUS	6077	GWA
1873	116				2	49	5330	12830	SKEENA RIVER.	22 07 967	G W ARGUS	6848	GWA
1873	116				14	3	5555	13002	HYDER	28 06 939	J P ANDERSON	5444	ISC 255993
1873	116				14	3	5526	13140	KETCHIKAN.	9 6 967	G W ARGUS	6090	GWA
1873	116				14	3	5559	13114	BURROUGHS BAY	19 09 915	E WALKER	1015	F 466614
1873	116				14	3	5555	13002	HYDER	02 06 924	K WHITED	11728	NA 332064
1873	116				14	6	5637	13250	PETERSBURG.	19 7 967	G W ARGUS	6832	GWA
1873	116				14	6	5648	13258	PETERSBURG.	19 4 967	G W ARGUS	6834	GWA
1873	116				14	6	5637	13234	PETERSBURG. MI	18 7 967	G W ARGUS	6828	GWA
1873	116				14	6	5628	13223	WRANGELL. PATS	21 7 967	G W ARGUS	6842	GWA
1873	116				14	6	5628	13223	WRANGELL.	21 7 967	G W ARGUS	6845	GWA
1873	116				14	6	5628	13223	WRANGELL	19 09 950	J CHRIST	20212	NA 320586
1873	116				14	6	5628	13223	WRANGELL	27 07 914	A EASTWOOD	993	CAN
1873	116				14	9	5751	13459	FRESHWATER BAY	10 06 937	J P ANDERSON	3089	ISC 255998
1873	116				14	9	5704	13516	SITKA ROAD TO	17 7 967	G W ARGUS	6827	GWA
1873	116				14	9	5704	13516	SITKA E.BRANC	17 7 967	G W ARGUS	6826	GWA
1873	116				14	10	5840	13620	GEIKE INLET	29 06 928	J P ANDERSON	752	ISC 255995
1873	116				14	10	5854	13603	MUIR INLET, GL	29 6 967	G W ARGUS	6397	GWA
1873	116				14	10	5854	13603	MUIR INLET, GL	27 06 967	G W ARGUS	6356	GWA
1873	116				14	10	5854	13603	MUIR INLET, GL	27 06 967	G W ARGUS	6355	GWA
1873	116				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6508	GWA
1873	116				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6485	GWA
1873	116				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6481	GWA
1873	116				14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6453	GWA
1873	116				14	10	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6424	GWA
1873	116				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6383A	GWA
1873	116				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6374	GWA
1873	116				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6364	GWA
1873	116				14	10	5832	13724	CRILLON LAKE	13 07 956	D BRINK	10	F 885198
1873	116				14	11	5825	13433	MENDENHALL GL	24 06 917	J P ANDERSON	411	ISC 255983
1873	116				14	11	5825	13433	MENDENHALL GL	31 05 925	J P ANDERSON	2815	ISC 255997
1873	116				14	11	5825	13433	MENDENHALL GL	16 05 941	J P ANDERSON	6439	ISC 255990
1873	116				14	11	5818	13425	JUNEAU	23 04 946	J P ANDERSON	6227	ALA 555
1873	116				14	11	5820	13436	DOUGLAS ISLAND	07 7 967	G W ARGUS	6595	GWA
1873	116				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6594	GWA
1873	116				14	11	5822	13436	MENDENHALL RIV	13 6 967	G W ARGUS	6105	GWA
1873	116				14	11	5820	13436	DOUGLAS ISLAND	07 7 967	G W ARGUS	6597	GWA
1873	116				14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6665	GWA
1873	116				14	11	5831	13445	EAGLE RIVER. 1	10 7 967	G W ARGUS	6667	GWA
1873	116				14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6573	GWA
1873	116				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6642A	GWA
1873	116				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6651	GWA
1873	116				14	11	5823	13440	JUNEAU	13 6 967	G W ARGUS	6099	GWA
1873	116				14	11	5817	13424	MT ROBERTS	06 08 967	L A VIERECK	8606	GWA
1873	116				14	34	5715	15332	THREE SAINTS B	07 07 963	B H NYBAKKEN	1008	GWA
1873	116				14	45	5926	13612	BIG BOULDER CR	12 7 967	G W ARGUS	6692	GWA
1873	116				14	45	5926	13612	BIG BOULDER CR	12 7 967	G W ARGUS	6695	GWA
1873	116				14	45	5925	13603	KLEHINI RIVER	12 7 967	G W ARGUS	6688	GWA
1873	116				14	45	5926	13612	BIG BOULDER CR	12 7 967	G W ARGUS	6694	GWA
1873	116				14	45	5907	13520	HAINES, MI. 6	13 7 967	G W ARGUS	6746	GWA
1873	116				14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6679	GWA
1873	116				14	45	5928	13602	MOSQUITO LAKE.	11 7 967	G W ARGUS	6671	GWA
1873	116				14	45	5928	13602	MOSQUITO LAKE.	11 7 967	G W ARGUS	6672	GWA
1873	116				14	45	5901	13533	DAVIDSON GL	06 07 929	W COOPER	111	F 745928
1873	116				14	45	5928	13519	SKAGWAY	26 08 916	M MALTE		CAN 122114
1873	116				14	45	5928	13519	SKAGWAY	25 08 916	M MALTE		CAN 122111
1873	116				14	46	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6190	GWA
1873	116				14	46	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6191	GWA
1873	116				14	46	5955	13945	YAKUTAT BAY.	15 6 967	G W ARGUS	6180	GWA
1873	116				14	46	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6192	GWA
1873	116				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6117	GWA
1873	116				14	46	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6186	GWA
1873	116				14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6136	GWA
1873	116				14	46	5952	13945	YAKUTAT BAY.	16 6 967	G W ARGUS	6186	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	116				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6240	GWA
1873	116				14	46	5915	13830	TANIS LAKE	21 6 967	G W ARGUS	6274	GWA
1873	116				14	46	5915	13830	TANIS LAKE	19 6 967	G W ARGUS	6210	GWA
1873	116				14	46	5932	13940	YAKUTAT.	23 6 967	G W ARGUS	6343	GWA
1873	116				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6306	GWA
1873	116				14	46	5933	13930	SITUK RIVER.	23 6 967	G W ARGUS	6353	GWA
1873	116				14	46	5935	13940	YAKUTAT	10 06	V L HARMS	5172	ALA 32574
1873	116				14	46	5935	13940	YAKUTAT	12 06 966	V L HARMS	5216	ALA 32571
1873	116				14	46	5935	13940	YAKUTAT	10 06 966	V L HARMS	5165	ALA 32576
1873	116				14	46	5935	13940	YAKUTAT	10 06 966	V L HARMS	5205	ALA 32572
1873	116				14	46	5930	13940	YAKUTAT	09 06 965	L A VIERECK	7597	FSLC 334
1873	116				14	46	5908	13822	E ALSEK R	10 06 965	L A VIERECK	7601	FSLC 327
1873	116				14	46	5930	13940	YAKUTAT	09 06 965	L A VIERECK	7595	FSLC 332
1873	116				14	46	5930	13940	YAKUTAT	09 06 965	L A VIERECK	7597	GWA
1873	116				14	46	5908	13822	E ALSEK R	10 06 965	L A VIERECK	7601	GWA
1873	116				14	46	5930	13940	YAKUTAT	09 06 965	L A VIERECK	7595	GWA
1873	116				14	50	5940	15132	HOMER	13 06 967	L A VIERECK	8269	GWA
1873	116				14	62	6003	15140	NINILCHIK CAMP	13 06 967	L A VIERECK	8260	GWA
1873	116				14	62	6002	15141	DEEP CREEK	13 06 967	L A VIERECK	8263	GWA
1873	116				14	63	6055	14939	HOPE	03 06 941	J P ANDERSON	6539	ISC 255991
1873	116				14	63	6007	14927	SEWARD	30 05 941	J P ANDERSON	6462	ISC 255992
1873	116				14	63	6007	14927	SEWARD	30 05 941	J P ANDERSON	6462	ALA 558
1873	116				14	63	6055	14939	HOPE	24 05 951	J A CALDER	4926	GWA
1873	116				14	63	6019	14921	SNOW R DELTA	28 05 951	J A CALDER	4965	GWA
1873	116				14	63	6003	14804	PORT SAN JUAN	12 07 948	W J EYERDAM	5845	CAN
1873	116				14	63	6007	14927	SEWARD	27 05 945	W J EYERDAM	3672	CAN
1873	116				14	63	6003	14804	PORT SAN JUAN	12 07 948	W J EYERDAM	5845	ISC 255985
1873	116				14	63	6048	14852	PORTAGE	24 07 967	V L HARMS	5896A	ALA 34637
1873	116				14	63	6055	14900	PORTAGE GL	07 06 966	V L HARMS	5086	ALA 32643
1873	116				14	63	6003	14904	DAY HARBOR	16 06 952	D KLEIN	1	ALA 22977
1873	116				14	63	6003	14904	DAY HARBOR	16 06 952	D KLEIN	2	ALA 22975
1873	116				14	63	6048	14855	PORTAGE GL RD	11 06 967	L A VIERECK	8230	GWA
1873	116				14	63	6048	14855	PORTAGE GL RD	11 06 967	L A VIERECK	8229	GWA
1873	116				14	63	6048	14850	PORTAGE GL	04 07 957	L A VIERECK	2033	GWA
1873	116				14	63	6027	14820	NELLIE JUAN GL	17 08 957	L A VIERECK	2240	GWA
1873	116				14	63	6045	14923	SEWARD HWY M59	12 06 967	L A VIERECK	8243	GWA
1873	116				14	63	6048	14850	PORTAGE GL	04 07 957	L A VIERECK	2033	ALA 8388
1873	116				14	64	6033	14545	CORDOVA	28 07 940	W J EYERDAM		NA 332115
1873	116				14	64	6040	14543	ORCA	05 940	I L NORBERG		CAN
1873	116				14	64	6100	14500	COPPER R FLATS	960	A SHEETS	S.N.	ALA 25125
1873	116				14	64	6100	14500	COPPER R FLATS	960	A SHEETS	S.N.	ALA 25121
1873	116				14	68	6107	14616	VALDEZ	05 07 935	J P ANDERSON	1865	ISC 256600
1873	116				14	68	6111	14619	VALDEZ GLACIER	02 08 967	L A VIERECK	8749	GWA
1873	116				14	68	6112	14619	VALDEZ	02 08 967	L A VIERECK	8748	GWA
1873	116				14	68	6112	14619	VALDEZ	02 08 967	L A VIERECK	8743	GWA
118	STOLONIFERA												
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6697	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6726	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6706	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6707	GWA
1873	118				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6776	GWA
1873	118				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6797	GWA
1873	118				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6794	GWA
1873	118				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6796	GWA
1873	118				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6789	GWA
1873	118				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6788	GWA
1873	118				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6784	GWA
1873	118				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6782	GWA
1873	118				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6781	GWA
1873	118				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6773	GWA
1873	118				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6772	GWA
1873	118				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6777	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6710	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6711	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6716	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6722	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6725	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6734	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6733	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6697	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6726	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6706	GWA
1873	118				02	002	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6707	GWA
1873	118				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6776	GWA
1873	118				02	002	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6799	GWA
1873	118				02	002	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6775	GWA
1873	118				02	2	5938	13628	HAINES RD M81	13 07 956	T M TAYLOR	1351	DAO 32737
1873	118				02	2	5935	13627	HAINES RD M58	04 08 967	L A VIERECK	8539	GWA
1873	118				02	2	5935	13627	HAINES RD M58	04 08 967	L A VIERECK	8539	GWA
1873	118				02	3	5938	13508	WHITE PASS	23 07 914	A EASTWOOD	927	CAN 46435
1873	118				02	3	5938	13508	WHITE PASS	23 07 914	A EASTWOOD	927	CAN 46435
1873	118				02	3	5938	13508	WHITE PASS	23 07 914	A EASTWOOD	927	A
1873	118				02	3	5938	13508	WHITE PASS	23 07 914	A EASTWOOD	927	US 1011915
1873	118				02	3	5938	13508	WHITE PASS	23 07 914	A EASTWOOD	927	A
1873	118				02	3	5938	13508	WHITE PASS	23 07 914	A EASTWOOD	927	US 1011915
1873	118				02	3	5938	13508	WHITE PASS	10 09 900	F A WALPOLE	1249	US 378231
1873	118				02	3	5938	13508	WHITE PASS	10 09 900	F A WALPOLE	1249	US 378231
1873	118				02	13	5830	13020	DEASE LAKE	03 08 962	S MACDONALD	445	CAN 273999

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	118				02	13	5830	13020	DEASE LAKE	03 08 962	S MACDONALD	445	CAN 273999
1873	118				02	20	5800	13110	TELEGRAPH CR	15 08 941	T MCCABE	8887	NA 319578
1873	118				02	20	5800	13110	TELEGRAPH CR	15 08 9 1	T MCCABE	8887	NA 319578
1873	118				02	33	5530	12748	SKEENA CROSS	30 08 954	J A CALDER	15219	US 2349127
1873	118				02	33	5530	12748	SKEENA CROSS	30 08 954	J A CALDER	15219	US 2349127
1873	118				14	3	5555	13001	CHICKAMIN GL	17 07 941	T MCCABE	9006	NA 319577
1873	118				14	4	5553	13414	PIN PEAK	09 06 959	D KLEIN	460	ALA 17864
1873	118				14	10	5854	13603	MUIR INLET, GL	29 6 967	G W ARGUS	6395	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6477	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6474	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6473	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6471	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6470	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6461	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6460	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6469	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6448	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6469	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6469	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6470	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6471	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6452	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6448	GWA
1873	118				14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6473	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6511	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6517	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6511	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6519	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6524	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6526	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6527	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6528	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6529	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6506	GWA
1873	118				14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6501	GWA
1873	118				14	10	5855	13603	MUIR INLET	28 06 967	G W ARGUS	6386	GWA
1873	118				14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6386	GWA
1873	118				14	10	5840	13710	MOUNT CRILLON	14 07 933	R BATES	46	GH
1873	118				14	10	5858	13611	MUIR INLET	08 06 899	F V COVILLE	627	US 373565
1873	118				14	10	5858	13611	MUIR INLET	08 06 899	F V COVILLE	621A	US 376921
1873	118				14	10	5900	13610	MUIR GLACIER	29 06 897	W EVANS	158	US 378396
1873	118				14	10	5900	13610	MUIR GLACIER	09 06 899	W TRELEASE	3452	A
1873	118				14	11	5818	13425	JUNEAU	15 06 940	J P ANDERSON	S.N.	ALA 559
1873	118				14	11	5818	13425	JUNEAU	15 06 940	J P ANDERSON	S.N.	ISC 256239
1873	118				14	11	5817	13424	MT ROBERTS	17 06 925	J P ANDERSON	2478	ISC 256224
1873	118				14	11	5826	13434	MENDENHALL	22 7 917	J P ANDERSON	409	ISC 85589
1873	118				14	11	5830	13420	AMHERST PK	26 07 952	G W ARGUS	100	ALA 4736
1873	118				14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6660	GWA
1873	118				14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6659	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6609	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6643	GWA
1873	118				14	11	5840	13410	TAKU B	10 08 952	G W ARGUS	88	GWA
1873	118				14	11	5840	13415	TAKU C	21 07 952	G W ARGUS	89	GWA
1873	118				14	11	5830	13415	DEATH VALLEY	27 07 952	G W ARGUS	96	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6604	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6601	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6603	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6616	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6615	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6614	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6613	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6611	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6602	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6610	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6638	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6636	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6631	GWA
1873	118				14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6621	GWA
1873	118				14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6656	GWA
1873	118				14	11	5817	13424	MT ROBERTS	23 07 955	A L THRONE	10279	WTS
1873	118				14	11	5817	13424	MT ROBERTS	06 08 967	L A VIERECK	8620	GWA
1873	118				14	11	5817	13424	MT ROBERTS	06 08 967	L A VIERECK	8630	GWA
1873	118				14	29	5503	16219	KING COVE	26 07 932	W J EYERDAM	1836A	US 1631461
1873	118				14	29	5503	16219	KING COVE	26 07 932	W J EYERDAM	183A	US 1631461
1873	118				14	32	5651	15418	CAPE ALITAK	23 06 913	R F GRIGGS		US 1072095
1873	118				14	34	5747	15247	KODIAK	08 06 899	F V COVILLE	621A	US 373564
1873	118				14	34	5747	15247	KODIAK	28 07 904	C V PIPER	4689	US 421028
1873	118				14	34	5747	15247	KODIAK	20 08 900	F A WALPOLE	1225	US 378193
1873	118				14	34	5747	15247	KODIAK	20 08 900	F A WALPOLE	1225	US 378194
1873	118				14	34	5747	15247	KODIAK	20 08 900	F A WALPOLE	1225	US 378194
1873	118				14	34	5747	15247	KODIAK	20 08 900	F A WALPOLE	1225	US 378193
1873	118				14	34	5747	15247	KODIAK	22 08 900	F A WALPOLE	1227	US 378199
1873	118				14	34	5747	15247	KODIAK	22 08 900	F A WALPOLE	1227	US 378200
1873	118				14	35	5710	15418	CANNERY MT	28 06 939	E LOOFF	901	A
1873	118				14	35	5710	15418	CANNERY MT	10 06 939	E LOOFF	901	A
1873	118				14	35	5710	15418	CANNERY MT	10 06 939	E LOOFF	901	NY
1873	118				14	39	5834	16146	CAPE PEIRCE	7 6 970	L DICK	55	GWA
1873	118				14	39	5834	16146	CAPE PEIRCE	26 5 970	L DICK	7	GWA
1873	118				14	39	5834	16146	CAPE PEIRCE	28 5 970	L DICK	17	GWA
1873	118				14	39	5834	16146	CAPE PEIRCE	30 5 970	L DICK	20	GWA
1873	118				14	39	5834	16146	CAPE PEIRCE	2 7 970	L DICK	237	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	118				14	41	5802	15617	BECHAROF L	22 07 949	K A RAUP	96	ISC 224498
1873	118				14	45	5927	13519	SKAGWAY	23 07 934	J P ANDERSON	16398	ISC 256241
1873	118				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6299	GWA
1873	118				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6293	GWA
1873	118				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6336	GWA
1873	118				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6332	GWA
1873	118				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6334	GWA
1873	118				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6304	GWA
1873	118				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6302	GWA
1873	118				14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6299	GWA
1873	118				14	46	5933	13945	YAKUTAT BAY	19 06 899	F V COVILLE	1141	US 373567
1873	118				14	46	5933	13945	YAKUTAT BAY	21 06 899	F V COVILLE	1141	A
1873	118				14	46	5933	13944	YAKUTAT	24 06 916	E P WALKER	1061	US 887058
1873	118				14	46	5933	13944	YAKUTAT	24 06 916	E P WALKER	1061	US 1086935
1873	118				14	52	5952	15631	STUYAHOK L	14 08 951	E H MULLER	886	US 2176395
1873	118				14	62	6025	15020	SKILAK L	939	A W SHARPLES	S.N.	ISC 256236
1873	118				14	63	6030	14926	MOOSE PASS	17 06 941	J P ANDERSON	6814	ISC 256419
1873	118				14	63	6030	14926	MOOSE PASS	17 06 941	J P ANDERSON	6814	NA 319576
1873	118				14	66	6001	13930	HUBBARD GL	21 06 899	F V COVILLE	1079	US 373566
1873	118				14	69	6146	14918	HATCHER PASS	08 08 947	DUTILLY	22085	DAO 32722
1873	118				14	69	6146	14918	HATCHER PASS	07 08 947	DUTILLY	22006	DAO 32742
1873	118				14	69	6104	14905	GIRDWOOD MINE	07 07 957	L A VIERECK	2045	ALA 8375
1873	118				14	69	6104	14905	GIRDWOOD MINE	07 07 957	L A VIERECK	2045	GWA
119	DRUMMONDIANA												
1873	119				1	20	5644	11123	MCMURRAY	31 05 939	H M RAUP	9047	US 2347455
1873	119				1	20	5644	11123	MCMURRAY	31 05 939	H M RAUP	9044	US 2347453
1873	119				1	20	5644	11123	MCMURRAY	31 05 939	H M RAUP	9045	US 2347454
1873	119				1	20	5644	11123	MCMURRAY	31 05 939	H M RAUP	9045	GWA
1873	119				1	29	5443	11317	ATHABASCA LDG	28 08 925	C BALL	2364	US 1287566
1873	119				1	36	5241	11802	MT EDITH CAVE	09 08 968	G W ARGUS	6924	GWA
1873	119				1	48	4901	11404	CAMERON LAKE	29 06 956	F HERMANN	12644	US 2233402
1873	119				2	14	5822	12955	DEASE L VILLAG	13 8 969	K RIGBY	273	OTF 1143
1873	119				2	17	5835	12240	FORT NELSON	21 05 960	J A CALDER	24545	GWA
1873	119				2	17	5748	12253	FT NELSON	26 05 960	J A CALDER	24629	GWA
1873	119				2	17	5847	12335	STEAMBOAT CR	27 05 960	J A CALDER	24692	GWA
1873	119				2	24	5714	12241	SIKANNI CHF R	21 05 960	J A CALDER	24526	GWA
1873	119				2	24	5705	12235	BEATON RIVER	10 06 943	H M RAUP	10015	US 2422616
1873	119				2	24	5705	12235	BEATON RIVER	10 06 943	H M RAUP	10023	GWA
1873	119				2	24	5705	12235	BEATON RIVER	10 06 943	H M RAUP	10015	GWA
1873	119				2	24	5705	12235	BEATON RIVER	23 06 943	H M RAUP	10255	GWA
1873	119				2	24	5714	12243	SIKANNI CHF R	20 06 943	H M RAUP	10155	GWA
1873	119				2	36	5550	12035	KISKATINAW R	21 06 966	G W ARGUS	4964	GWA
1873	119				11	1	5901	10900	LITTLE GULL L	07 07 962	G W ARGUS	44262	GWA
1873	119				11	1	5901	10900	LITTLE GULL L	07 07 962	G W ARGUS	44362	GWA
1873	119				11	1	5901	10900	LITTLE GULL L	07 07 962	G W ARGUS	44162	GWA
1873	119				12	43	6005	13035	RANCHERIA	22 08 966	G W ARGUS	6022	GWA
1873	119				12	44	6003	12840	WATSON LAKE	24 06 966	G W ARGUS	5017	GWA
1873	119				12	44	6003	12840	WATSON LAKE	28 06 966	G W ARGUS	5064	GWA
1873	119				12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5035	GWA
122	1 ALAXENSIS VAR. ALAXENSIS												
1 73	122		1		2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6804	GWA
1873	122		1		2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6804	GWA
1873	122		1		2	2	5941	13632	NADAHINI RIVER	13 7 967	G W ARGUS	6804	GWA
1873	122		1		2	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6801	GWA
1873	122	0	1		2	16	5839	12428	N TETSA R	08 05 960	J A CALDER	24355	ALA 17326
1873	122	0	1		2	16	5831	12434	SUMMIT PASS	13 07 943	H M RAUP	10510	ALA 19740
1873	122	0	1		2	16	5821	12434	SUMMIT PASS	11 07 943	H M RAUP	10469	ALA 19747
1873	122	0	1		7	133	6842	13406	MACKENZIE DELT	18 07 934	A F PORSILD	6983	GWA
1873	122	0	1		7	152	6813	13547	CANOE LAKE	26 06 964	J A LARSEN	7030	GWA
1873	122	0	1		7	181	6750	11550	COPPERMINE	963	J A LARSEN		GWA
1873	122	0	1		7	254	6559	10152	PELLY LAKE	16 07 966	J A LARSEN	9064	GWA
1873	122	0	1		7	276	6456	12543	NORMAN	13 07 947	A F PORSILD	16704	GWA
1873	122	0	1		7	290	6416	9605	THELON RIVER	08 07 965	E KUYT	965	GWA
1873	122	0	1		7	297	6409	8318	CORAL HARBOR	14 07 948	W J CODY	1303	ISC 255845
1873	122	0	1		7	329	6336	8405	SOUTHAMPTON IS	20 07 951	D K BROWN	800	GWA
1873	122	0	1		7	329	6525	8550	SOUTHAMPTON IS	13 08 952	B R IRVINE	40	GWA
1873	122	0	1		7	347	6237	11130	TALTHEILEI NRS	09 07 927	H M RAUP	502	ALA 14599
1873	122	0	1		7	348	6242	10908	FORT RELIANCE	12 08 964	J A LARSEN	7014	GWA
1873	122	0	1		7	348	6242	10908	FORT RELIANCE	963	J A LARSEN		GWA
1873	122		1		7	368	6127	12542	FLAT RIVER	30 6 970	G W SCOTTER	12547	GWA
1873	122		1		12	2	6922	13932	FIRTH RIVER	1 7 970	S L WELSH	10162	OTF 1200
1873	122		1		12	4	6807	13928	BLACK FOX CR	20 7 970	J K RIGBY	99	OTF 1198
1873	122		1		12	4	6850	13845	BABBAGE R.	1 7 970	S L WELSH	10118	BRY 91150
1873	122		1		12	4	6840	13907	BABBAGE CREEK	3 7 970	S L WELSH	10193	OTF 1199
1873	122		1		12	5	6734	13832	OLD CROW R.	18 6 970	J K RIGBY	4	BRY 92303
1873	122	0	1		12	32	6103	13822	KLUANE LAKE	21 06 967	D F MURRAY	741	GWA
1873	122	0	1		12	32	6122	13859	KLUANE LAKE	13 07 944	H M RAUP	12440	ALA 19741
1873	122	0	1		12	35	6145	13307	ROSE LAPIE R P	29 06 944	A F PORSILD	10121	ISC 555896
1873	122	0	1		12	42	6016	13255	TESLIN LAKE	02 07 968	S L WELSH	7617	GWA
1873	122	0	1		12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5023	GWA
1873	122	0	1		14	10	5849	13620	GLACIER BAY	29 06 928	J P ANDERSON	734	ISC 255905
1873	122		1		14	10	5855	13903	MUIR INLET, GL	28 6 967	G W ARGUS	6390	GWA
1873	122		1		14	10	5855	13903	MUIR INLET, GL	28 6 967	G W ARGUS	6376	GWA
1873	122		1		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6497	GWA
1873	122		1		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6490	GWA

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
1873	122		1		14	10	5854	13603	MUIR INLET, GL	27 06 967	G W ARGUS	6354	GWA
1873	122		1		14	10	5855	13903	MUIR INLET, GL	28 6 967	G W ARGUS	6389	GWA
1873	122	0	1		14	10	5859	13606	MUIR INLET	01 07 967	G W ARGUS	6490	GWA
1873	122	0	1		14	10	5855	13903	MUIR INLET	28 06 967	G W ARGUS	6389	GWA
1873	122	0	1		14	25	5451	16324	FALSE PASS	21 05 934	I L NORBERG	358	ISC 255878
1873	122	0	1		14	34	5748	15404	UYAK BAY	27 05 938	J P ANDERSON	3139	ISC 255853
1873	122	0	1		14	43	5805	15305	RASPBERRY IS.	25 08 945	W J EYERDAM	5231	ISC 255850
1873	122	0	1		14	45	5949	13638	HAINES RD M 82	04 08 967	L A VIERECK	8551	GWA
1873	122		1		14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6107	GWA
1873	122	0	1		14	51	5904	15455	BATTLE L	20 07 965	V L HARMS	4287	ALA 32591
1873	122	0	1		14	55	6000	16700	DUCHILETHLUK R	20 08 965	G BOS		ALA 32294
1873	122		1		14	62	6013	15048	BEAR CREEK	15 8 968	S HAMMARSTROM	12	OTF 1104
1873	122	0	1		14	62	6003	15140	NINILCHIK	09 06 961	E L LITTLE, JR.	18396	GWA
1873	122	0	1		14	67	6140	14215	WRANGELL MTS	20 06 967	R W SCOTT	1613	GWA
1873	122	0	1		14	69	6140	14900	MATANUSKA VY	940	L J PALMER	108	ALA 5976
1873	122	0	1		14	69	6140	14900	MATANUSKA VY	940	L J PALMER	424	ALA 5223
1873	122	0	1		14	69	6136	14906	LTL SUSITNA CN	13 06 965	S L WELSH	4100	ISC 247217
1873	122		1		14	71	6155	15425	HEAD OF BIG R.	9 7 950	W H DRURY	4023	CAN
1873	122		1		14	71	6152	15433	HEAD OF BIG R.	5 7 950	W H DRURY	3897	CAN
1873	122		1		14	80	6233	15337	FAREWELL L.	2 8 949	W H DRURY	2278	CAN
1873	122	0	1		14	80	6231	15336	FAREWELL	15 06 961	E L LITTLE, JR.	18439	GWA
1873	122	0	1		14	81	6234	15049	TALKEETNA MTS	12 07 931	J P ANDERSON	1038	ALA 27306
1873	122	0	1		14	81	6234	15049	TALKEETNA MTS	12 07 931	J P ANDERSON	1038	ISC 255851
1873	122	0	1		14	81	6240	15230	TONZONA RIVER	14 06 961	L A VIERECK	5003	FSLC
1873	122	0	1		14	86	6310	14530	PHELAN CREEK	20 07 957	G W ARGUS	1146	ALA 8390
1873	122	0	1		14	86	6310	14530	PHELAN CREEK	20 07 957	G W ARGUS	1146	GWA
1873	122	0	1		14	86	6337	14643	GLACIER CREEK	10 07 941	L J PALMER	661	ALA 5189
1873	122	0	1		14	86	6337	14643	W FK LTL DELTA	03 06 941	L J PALMER	554	ALA 5159
1873	122	0	1		14	86	6337	14643	W FK LTL DELTA	03 06 941	L J PALMER	496	ALA 5628
1873	122	0	1		14	86	6337	14643	W FK LTL DELTA	03 06 941	L J PALMER	558	ALA 5157
1873	122	0	1		14	86	6337	14643	W FK LTL DELTA	03 06 941	L J PALMER	554	ISC 255902
1873	122	0	1		14	86	6337	14643	W FK LTL DELTA	03 06 941	L J PALMER	496	ISC 255901
1873	122	0	1		14	87	6355	14725	DRY CREEK	30 06 962	L A VIERECK	5759	GWA
1873	122	0	1		14	88	6330	15000	TOKLAT R BR	28 07 956	G W ARGUS	689	ALA 22494
1873	122	0	1		14	88	6330	15000	TOKLAT R BR	28 07 956	G W ARGUS	689	GWA
1873	122	0	1		14	88	6324	15020	THOROFARE R	20 07 956	L A VIERECK	1425	ALA 11607
1873	122	0	1		14	88	6331	15002	TOKLAT R BR	18 08 956	L A VIERECK	1793	ALA 11597
1873	122	0	1		14	88	6330	15000	TOKLAT RIVER	17 08 956	L A VIERECK	1794	GWA
1873	122	0	1		14	88	6332	15002	TOKLAT R BR	22 07 965	S L WELSH	4857	ISC 247205
1873	122	0	1		14	92	6302	16320	PASTOLIK RIVER	03 07 922	L J PALMER	394	ALA 5955
1873	122	0	1		14	94	6430	16530	NOME	16 06 954	C HELLER	1071	ALA 27069
1873	122	0	1		14	100	6452	14750	COLLEGE	30 08 957	G W ARGUS	1200	GWA
1873	122	0	1		14	104	6549	14403	CIRCLE	932	BEAUCHAMP	S.N.	ALA 488
1873	122	0	1		14	104	6557	14526	EAGLE CR CAMP	12 06 966	J M TRENT	266	ALA 32696
1873	122	0	1		14	110	6536	16313	IMURUK LAKE	947	J G SIEH	72	ISC 255849
1873	122	0	1		14	124	6725	15007	WISEMAN	01 08 939	J P ANDERSON	5873	ALA 27555
1873	122	0	1		14	125	6757	15312	EASTER CREEK	06 08 965	V STAENDER	61	ALA
1873	122	0	1		14	129	6853	16613	CAPE LISBURNE	07 08 938	J P ANDERSON	4497	ISC 255837
1873	122	0	1		14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5954	GWA
1873	122	0	1		14	129	6815	16600	CAPE THOMPSON	06 960	L H BELSON		ALA 28876
1873	122	0	1		14	129	6800	16533	KUKPUK RIVER	04 08 963	H P MELCHIOR	547	GWA
1873	122	0	1		14	129	6840	16610	KAPALOAK CREEK	19 07 960	L VIERECK	4172	ALA
1873	122	0	1		14	129	6839	16613	KAPALOAK CREEK	24 07 960	L VIERECK	4277	ALA 13224
1873	122		1		14	131	6855	16110	DRIFTWOOD CR	29 6 969	R F PEGAU	16069	GWA
1873	122	0	1		14	136	6803	14500	OLD JOHN LAKE	06 08 957	S SHETLER	978AF	ALA 4269
1873	122	0	1		14	137	6822	14355	SHEENJEK RIVER	22 06 956	B KESSEL	S55	ALA 5649
1873	122	0	1		14	137	6822	14355	SHEENJEK RIVER	22 06 956	B KESSEL	S55	ALA 22871
1873	122	0	1		14	137	6822	14355	SHEENJEK RIVER	15 06 956	B KESSEL	S19	ALA 22869
1873	122	0	1		14	137	6822	14355	SHEENJEK RIVER	15 06 956	B KESSEL	S19	ALA 5048
1873	122	0	1		14	137	6822	14355	SHEENJEK RIVER	15 06 956	B KESSEL	S19	GWA
1873	122	0	1		14	137	6839	14100	FIRTH RIVER	16 06 961	E L LITTLE, JR.	18454	GWA
1873	122	0	1		14	139	6924	14608	CANNING RIVER	28 07 947	L SPETZMAN	406	ISC 255839
1873	122	0	1		14	139	6924	14608	CANNING RIVER	28 07 947	L SPETZMAN	407	ISC 255838
1873	122	0	1		14	139	6924	14608	CANNING RIVER	28 07 947	L SPETZMAN	402	ISC 255840
1873	122	0	2		14	141	6925	15210	UMIAT	11 07 53	F H BORMANN	53-271	US 2385823
1873	122	0	1		14	141	6922	15208	UMIAT	19 06 952	G LINDSAY	2253	ISC 224879
1873	122	0	1		14	141	6922	15208	UMIAT	27 06 953	S G SMITH	1846	ALA 10646
1873	122	0	1		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	27966	GWA
1873	122	0	1		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	28166	GWA
1873	122	0	1		14	141	6923	15210	UMIAT	28 07 966	Y SUDA	26166	GWA
1873	122	0	1		14	141	6923	15210	UMIAT	27 07 966	Y SUDA	24966	GWA
1873	122	0	1		14	141	6923	15210	UMIAT	29 07 966	Y SUDA	28066	GWA
1873	122	0	1		14	141	6922	15210	UMIAT	03 06 964	G WEST	7177	GWA
1873	122	0	1		14	141	6922	15210	UMIAT	12 08 964	G WEST	7506	GWA
1873	122	0	1		14	143	6953	15708	MEADE RIVER	21 07 960	O W GEIST	S.N.	ALA 27709
1873	122	0	1		14	143	6953	15708	MEADE RIVER	21 07 960	O GEIST	S.N.	ALA 28946
1873	122	0	1		14	144	6956	15957	WAINWRIGHT	09 07 958	S SHUSHAN		WIS
1873	122	0	1		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5580	GWA
1873	122	0	1		14	145	6902	16350	CAPE BEAUFORT	28 07 966	G W ARGUS	5697	GWA
1873	122	0	1		14	145	6902	16350	CAPE BEAUFORT	25 07 966	G W ARGUS	5626	GWA
1873	122	0	1		14	145	6902	16350	CAPE BEAUFORT	24 07 966	G W ARGUS	5439	GWA
1873	122	0	1		14	147	7030	15730	MEADE R. P.O.	14 07 966	G W ARGUS	5188	GWA
1873	122	0	1		14	147	7030	15730	MEADE R. P.O.	14 07 966	G W ARGUS	5189	GWA
1873	122	0	1		14	147	7030	15730	MEADE R. P.O.	18 07 966	G W ARGUS	5367	GWA
1873	122	0	1		14	147	7030	15730	MEADE R. P.O.	15 07 966	G W ARGUS	5239	GWA
1873	122	0	1		14	147	7030	15730	MEADE R. P.O.	14 07 966	G W ARGUS	5235	GWA
1873	122	0	1		14	147	7030	15730	MEADE R. P.O.		G W ARGUS	5190	GWA
1873	122	0	1		14	147	7040	15655	MEADE RIVER	16 07 952	G H WARD	1147	ISC 224878
1873	122	0	1		14	151	7010	14650	BULLEN	05 08 966	G W ARGUS	5822	GWA

122 2 ALAXENSIS VAR. LONGISTYLIS

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB	+ NO
1873	122		2		2	2	5935	13629	THREE GUARDSME	14 7 967	G W ARGUS	6802	GWA	
1873	122		2		2	2	5935	13630	INSPECTOR CREE	12 7 967	G W ARGUS	6735	GWA	
1873	122		2		2	14	5822	12955	DEASE L VILLAG	13 8 969	K RIGBY	274A	OTF	1134
1873	122	0	2		2	16	5849	12507	RACING RIVER	27 05 960	J A CALDER	24669	GWA	
1873	122	0	2		2	22	5714	12243	SIKANNI RIVER	20 06 943	H M RAUP	10156	ALA	19745
1873	122	0	2		2	22	5714	12243	SIKANNI RIVER	20 06 943	H M RAUP	10157	ALA	19744
1873	122	0	2		7	339	6205	12735	BRINTNELL L	20 06 939	H M RAUP	9149	ALA	14806
1873	122		2		7	368	6132	12520	S. NAHANNI R.	28 6 970	G W SCOTTER	12468	GWA	
1873	122	0	2		7	388	6050	12337	LIARD RIVER	03 08 961	W J CODY	11945	GWA	
1873	122	0	2		12	4	6803	13936	OLD CROW R CN	24 08 952	O W GEIST	14	ALA	27954
1873	122		2		12	5	6734	13832	OLD CROW R.	18 6 970	J K RIGBY	3	BRY	92302
1873	122	0	2		12	22	6335	13554	MAYO.	08 08 944	J P ANDERSON		TSC	255871
1873	122	0	2		12	32	6122	13859	KLUANE LAKE	13 07 944	H M RAUP	12441	ALA	19750
1873	122	0	2		12	35	6150	13300	LOWER LAPIE R	15 06 944	A E POPSILD	9504	TSC	255897
1873	122	0	2		12	40	6047	13738	ALSEK RIVER	24 06 944	H M RAUP	11887	ALA	19751
1873	122	0	2		12	40	6047	13738	ALSEK RIVER	24 06 944	H M RAUP	11887	GWA	
1873	122	0	2		12	41	6043	13500	WHITEHORSE	01 06 944	A E PORSILD	9145	TSC	255898
1873	122	0	2		12	41	6043	13500	WHITEHORSE	01 06 944	A E PORSILD	9146	TSC	255879
1873	122	0	2		12	41	6043	13503	WHITEHORSE	13 06 958	W M STIELL	6	GWA	
1873	122	0	2		12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5026	GWA	
1873	122	0	2		12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5024	GWA	
1873	122	0	2		12	44	6003	12855	UPPER LIARD R	25 06 966	G W ARGUS	5028	GWA	
1873	122	0	2		14	3	5555	13001	HYDER	05 924	K WHITED	1151	TSC	124371
1873	122	0	2		14	3	5555	13001	HYDER	04 05 924	K WHITED	1152	TSC	124370
1873	122		2		14	6	5648	13258	PETERSBURG.	19 4 967	G W ARGUS	6838	GWA	
1873	122		2		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6509	GWA	
1873	122		2		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6496	GWA	
1873	122		2		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6498	GWA	
1873	122		2		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6491	GWA	
1873	122		2		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6492	GWA	
1873	122		2		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6494	GWA	
1873	122		2		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6495	GWA	
1873	122		2		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6478	GWA	
1873	122		2		14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6493	GWA	
1873	122		2		14	10	5857	13602	MUIR INLET, GL	29 6 967	G W ARGUS	6421	GWA	
1873	122	0	2		14	10	5855	13603	MUIR INLET	28 06 967	G W ARGUS	6391	GWA	
1873	122	0	2		14	10	5855	13603	MUIR INLET	28 06 967	G W ARGUS	6392	GWA	
1873	122	0	2		14	10	5855	13603	MUIR INLET	28 06 967	G W ARGUS	6393	GWA	
1873	122	0	2		14	10	5855	13603	MUIR INLET	28 06 967	G W ARGUS	6387	GWA	
1873	122	0	2		14	10	5855	13603	MUIR INLET	28 06 967	G W ARGUS	6388	GWA	
1873	122		2		14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6392	GWA	
1873	122		2		14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6391	GWA	
1873	122		2		14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	63838	GWA	
1873	122		2		14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6393	GWA	
1873	122		2		14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6388	GWA	
1873	122		2		14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6387	GWA	
1873	122		2		14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6387	GWA	
1873	122		2		14	10	5855	13603	MUIR INLET, GL	28 6 967	G W ARGUS	6371	GWA	
1873	122	0	2		14	11	5818	13424	JUNEAU	09 05 967	J P ANDERSON	6422	TSC	255875
1873	122	0	2		14	11	5818	13424	JUNEAU	26 03 941	J P ANDERSON	6410	TSC	255900
1873	122	0	2		14	11	5818	13424	JUNEAU	09 05 967	J P ANDERSON	6422	ALA	1362
1873	122		2		14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6662	GWA	
1873	122		2		14	11	5826	13435	MENDENHALL GLA	10 7 967	G W ARGUS	6666	GWA	
1873	122		2		14	11	5825	13540	GUSTAVUS.	04 07 967	G W ARGUS	6577	GWA	
1873	122	0	2		14	34	5746	15312	TERROR BAY	16 08 950	W K CLARK		TSC	255854
1873	122	0	2		14	42	5820	15505	UPPER KNIFE CR	04 08 954	G SCHALLER	S.N.	ALA	2977
1873	122		2		14	45	5925	13603	KLEHINI RIVER	12 7 967	G W ARGUS	6689	GWA	
1873	122		2		14	45	5928	13602	MOSQUITO LAKE.	11 7 967	G W ARGUS	6674	GWA	
1873	122		2		14	45	5928	13605	MOSQUITO LAKE	45 7 967	G W ARGUS	6683	GWA	
1873	122		2		14	45	5907	13520	HAINES, MI. 6	13 7 967	G W ARGUS	6747	GWA	
1873	122	0	2		14	45	5927	13518	SKAGWAY	15 05 961	E L LITTLE, JR.	18118	GWA	
1873	122		2		14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6134	GWA	
1873	122		2		14	46	5915	13830	TANIS LAKE	21 6 967	G W ARGUS	6275	GWA	
1873	122		2		14	46	5915	13830	TANIS LAKE	21 6 967	G W ARGUS	6276	GWA	
1873	122		2		14	46	5952	13945	YAKUTAT BAY.	14 6 967	G W ARGUS	6120	GWA	
1873	122		2		14	46	5915	13830	TANIS LAKE.	22 6 967	G W ARGUS	6307	GWA	
1873	122	0	2		14	62	6001	15141	DEEP CREEK	13 06 967	L A VIERECK	8261	GWA	
1873	122	0	2		14	63	6055	14938	HOPE	03 06 941	J P ANDERSON	6536	TSC	255842
1873	122	0	2		14	63	6045	14915	BERTHA CREEK	29 06 967	V L HARMS	6062	ALA	34636
1873	122	0	2		14	67	6126	14255	MCCARTHY	08 06 961	E L LITTLE, JR.	18377	GWA	
1873	122	0	2		14	68	6107	14616	VALDEZ	05 07 935	J P ANDERSON	1865	TSC	255877
1873	122	0	2		14	68	6150	14731	SHEEP MT	15 07 948	J P ANDERSON	10670	TSC	255858
1873	122	0	2		14	68	6157	14517	COPPER CENTER	08 03 961	E L LITTLE, JR.	18383	GWA	
1873	122	0	2		14	69	6140	14900	MATANUSKA VY	940	L J PALMER	342	ALA	5163
1873	122	0	2		14	69	6117	14858	EKLUTNA GL	20 06 965	S L WELSH	4250	TSC	247436
1873	122	0	2		14	69	6157	14710	EUREKA LODGE	28 06 965	S L WELSH	4460	ALA	29981
1873	122	0	2		14	70	6157	15111	SKWENTNA	15 06 961	E L LITTLE, JR.	18434	GWA	
1873	122		2		14	71	6152	15433	HEAD OF BIG R.	5 7 950	W H DRURY	3898	CAN	
1873	122		2		14	73	6132	15927	ANIAK REGION	20 6 949	W H DRURY	1611	CAN	
1873	122	0	2		14	73	6132	16018	KALSKAG	19 06 930	W R MILLER	265C	TSC	255874
1873	122	0	2		14	73	6132	16018	KALSKAG	19 06 930	W R MILLER	265C	ALA	2856
1873	122	0	2		14	79	6259	15604	TAKOTNA	26 07 941	J P ANDERSON	7416	TSC	255903
1873	122	0	2		14	79	6259	15604	TAKOTNA	26 07 941	J P ANDERSON	7416	ALA	490
1873	122		2		14	80	6232	15541	KUSKOKWIM R.	20 7 949	W H DRURY	2149	CAN	
1873	122		2		14	80	6257	15536	MCGRATH	13 6 949	W H DRURY	1371	CAN	
1873	122		2		14	80	6232	15543	KUSKOKWIM R.	20 7 949	W H DRURY	2136	CAN	
1873	122	0	2		14	80	6258	15536	MCGRATH	27 07 948	R L LAYDEN	20083	TSC	255857

```
TAXON SPC S V HYB PROV QUAD  LAT  LONG     LOCALITY        DATE      COLLECTOR NAME       COL NO HERB + NO

1873  122 0 2        14   84  6242 14358 SLANA             26 07 947     DUTILLY             21627  ISC 255836
1873  122 0 2        14   84  6240 14130 ALA HWY M 1230    27 05 961 E L LITTLE, JR.         18226  GWA
1873  122 0 2        14   84  6222 14300 NABESNA ROAD      28 06 966 S L WELSH                5652  GWA
1873  122 0 2        14   86  6347 14545 DONNELY DOME      30 06 957 G W ARGUS                1064  GWA
1873  122 0 2        14   86  6347 14430 GEORGE LAKE       09 08 964 V L HARMS                3146  ALA   32606
1873  122 0 2        14   86  6345 14547 DONNELLY DOME     08 06 965 V L HARMS                3542  ALA   32638
1873  122   2        14   89  6315 15517 NIXON FORK        10  6 950 W H DRURY                 3623 CAN
1873  122   2        14   95  6434 16522 ANVIL MT.         14  6 971 M   WILLIAMS            2686   GWA
1873  122 0 2        14   96  6445 16150 MOSES POINT       15 06 965 M L HENRY                  10  ALA   30404
1873  122 0 2        14   96  6402 16055 EGAVIK            11 08 931 C H ROUSE                  19  ALA   25459
1873  122 0 2        14   96  6402 16055 EGAVIK            11 08 931 C H ROUSE                  19  ALA    2058
1873  122 0 2        14   97  6445 15857 GALENA            16 06 961 E L LITTLE, JR.         18504  GWA
1873  122 0 2        14   97  6420 15843 KALTAG            04 07 931 C H ROUSE                  44  ALA   25452
1873  122 0 2        14   97  6420 15843 KALTAG            04 07 931 C H ROUSE                  44  ALA    2059
1873  122 0 2        14   97  6420 15843 KALTAG            04 07 931 C H ROUSE                  44  ALA    2078
1873  122 0 2        14   97  6420 15843 KALTAG            04 07 931 G H ROUSE                  39  ALA    2077
1873  122 0 2        14   97  6420 15843 KALTAG            04 07 931 G H ROUSE                  39  ALA   25467
1873  122 0 2        14   97  6420 15843 KALTAG            04 07 931 G H ROUSE                  40  ALA    2075
1873  122 0 2        14   97  6420 15843 KALTAG            04 07 931 G H ROUSE                  40  ALA   25468
1873  122 0 2        14  100  6451 14743 FAIRBANKS         10 05 940 J P ANDERSON             6082  ISC 255876
1873  122 0 2        14  100  6452 14750 COLLEGE           30 08 957 G W ARGUS                1202  GWA
1873  122 0 2        14  100  6455 14745 GOLDSTREAM CR     05 07 966 G W ARGUS                5092  GWA
1873  122 0 2        14  100  6452 14750 COLLEGE           30 08 957 G W ARGUS                1201  GWA
1873  122 0 2        14  100  6452 14747 COLLEGE           07 07 966 G W ARGUS                5120  GWA
1873  122 0 2        14  100  6451 14759 COLLEGE           10 08 957 G W ARGUS                1158  GWA
1873  122 0 2        14  100  6452 14747 COLLEGE           07 07 966 G W ARGUS                5116  GWA
1873  122 0 2        14  100  6452 14747 COLLEGE           07 07 966 G W ARGUS                5113  GWA
1873  122 0 2        14  100  6452 14747 COLLEGE           07 07 966 G W ARGUS                5108  GWA
1873  122 0 2        14  100  6452 14747 COLLEGE           07 07 966 G W ARGUS                5119  GWA
1873  122 0 2        14  100  6452 14747 COLLEGE           07 07 966 G W ARGUS                5110  GWA
1873  122 0 2        14  100  6452 14747 COLLEGE           07 07 966 G W ARGUS                5114  GWA
1873  122 0 2        14  100  6452 14750 COLLEGE           30 08 957 G W ARGUS                1202  ALA    6729
1873  122 0 2        14  100  6451 14748 COLLEGE           25 07 932 G W GASSER                489  ALA
1873  122 0 2        14  100  6502 14740 ENGINEER CR       02 06 964 V L HARMS                2635  ALA   32625
1873  122 0 2        14  100  6451 14743 FAIRBANKS         20 07 931 L J PALMER                 10  ALA    5968
1873  122 0 2        14  100  6451 14743 FAIRBANKS         20 07 931 L J PALMER                 22  ALA    3975
1873  122 0 2        14  100  6451 14743 FAIRBANKS            06 933 L J PALMER                169  ALA    5270
1873  122 0 2        14  100  6451 14748 FAIRBANKS         21 07 963 T   SCHUCK                 12  ALA   26175
1873  122 0 2        14  100  6451 14743 FAIRBANKS               953 S G SMITH                 143  GWA
1873  122 0 2        14  100  6452 14752 U A  EXP. FARM    17 04 964 L A VIERECK              7144  FSLC    282
1873  122 0 2        14  100  6452 14752 U A  EXP. FARM    17 06 964 L A VIERECK              7193  FSLC    282
1873  122 0 2        14  100  6452 14752 U A  EXP. FARM    17 04 964 L A VIERECK              7146  FSLC    270
1873  122 0 2        14  100  6452 14752 U A  EXP. FARM    17 06 964 L A VIERECK              7184  FSLC    270
1873  122 0 2        14  100  6443 14710 MOOSE CREEK       17 04 964 L A VIERECK              7148  FSLC    272
1873  122 0 2        14  100  6443 14710 MOOSE CREEK       09 06 964 L A VIERECK              7156  FSLC    272
1873  122 0 2        14  100  6451 14752 SMITH LAKE        24 06 967 L A VIERECK              8285  GWA
1873  122 0 2        14  100  6451 14752 SMITH LAKE        04 05 967 L A VIERECK              8185  GWA
1873  122 0 2        14  100  6446 14816 NENANA MI 339     24 06 967 L A VIERECK              8287A GWA
1873  122 0 2        14  100  6446 14816 NENANA MI 339     18 05 966 L A VIERECK              7877  GWA
1873  122 0 2        14  100  6446 14816 NENANA MO 339     06 06 967 L A VIERECK              8200  GWA
1873  122 0 2        14  100  6451 14748 COLLEGE           10 06 959 L A VIERECK              4806  GWA
1873  122 0 2        14  100  6444 14809 FAIRBANKS         09 06 966 L A VIERECK              7909  GWA
1873  122 0 2        14  100  6444 14809 FAIRBANKS         20 05 965 L A VIERECK              7540  GWA
1873  122 0 2        14  101  6404 14507 GERSTLE R         13 08 963 L A VIERECK              7108  FSLC     55
1873  122 0 2        14  104  6545 14430 N EAGLE SUMMIT    15 06 951 J L BUCKLEY              S.N.  GWA
1873  122 0 2        14  104  6545 14430 N EAGLE SUMMIT    15 06 951 J L BUCKLEY              S.N.  ALA   26815
1873  122 0 2        14  104  6545 14430 N EAGLE SUMMIT    15 06 951 J L BUCKLEY              S.N.  ALA    5030
1873  122 0 2        14  104  6527 14526 EAGLE CR CAMP     17 06 965 J N TRENT                4965  ALA   30703
1873  122 0 2        14  104  6527 14526 EAGLE CR CAMP     12 06 966 J N TRENT                 366  ALA   32697
1873  122 0 2        14  104  6527 14526 EAGLE CR CAMP     14 06 965 J N TRENT                3565  ALA   30670
1873  122 0 2        14  104  6527 14526 EAGLE CR CAMP     12 06 966 J N TRENT                 566  ALA   32694
1873  122 0 2        14  104  6557 14408 CIRCLE 40KM S     09 07 965 L A VIERECK              7703  GWA
1873  122 0 2        14  105  6507 14735 CHATANIKA R       03 08 957 G W ARGUS                1155  GWA
1873  122 0 2        14  105  6507 14735 CHATANIKA R       03 08 957 G W ARGUS                1155  ALA    6805
1873  122 0 2        14  106  6527 14815 TOLOVANA R BR     30 07 965 V L HARMS                4650  ALA   32598
1873  122 0 2        14  117  6654 15141 BETTLES                 939 G T JOHNSON                    ISC 255855
1873  122 0 2        14  121  6723 14350 SMALL LAKE        03 08 957 S   SHETLER             895AF  ALA    4227
1873  122 0 2        14  124  6725 15007 WISEMAN           14 06 962 R   BROCKMAN                   ALA   28488
1873  122 0 2        14  124  6725 15006 WISEMAN           28 06 949 L H JORDAL               2032  ISC 255856


HYBRIDS


 15      PEDICELLARIS X  71 ATHABASCENSIS

1873    15       71  11   35  5237 10356 MCKAGUE           13 06 938 A J BREITUNG             S.N.  CAN   49131
1873    15       71  12   44  6003 12840 WATSON LAKE       26 06 966 G W ARGUS                5050  GWA
1873    15       71  12   44  6003 12840 WATSON LAKE       25 06 966 Y   SUDA                13566  GWA

 28 3    PLANIFOLIA SSP. PULCHRA X 109 SCOULERIANA

1873    28 3 3 109  14   80  6217 15612 KUSKOKWIM R       19  7 949 W H DRURY                 2102 CAN
1873    28 3 3 109  14   89  6315 15442 NIXON MINE         4  9 949 W H DRURY                3377A CAN
1873    28 3   109  14  100  6452 14752 SMITH L           24 06 967 L A VIERECK              8286  GWA
```

TAXON	SPC	S	V	HYB	PROV	QUAD	LAT	LONG	LOCALITY	DATE	COLLECTOR NAME	COL NO	HERB + NO
45	ARCTICA X 49 GLAUCA												
1873	45			49	14	13	5255	17255	ATTU ISLAND	15 08 945	G W SOULE	374	ISC 255823
45	ARCTICA X 83 OVALIFOLIA												
1873	45			83	14	111	6546	16855	LTL DIOMEDE IS	14 08 926	A E PORSILD	1676	ISC 256225
1873	45			83	14	129	6806	16545	OGOTORUK CREEK	11 08 966	G W ARGUS	5967	GWA
1873	45			83	14	151	7010	14650	BULLEN	03 08 966	G W ARGUS	5765	GWA
45	ARCTICA X 87 BARCLAYI												
1873	45			87	14	11	5818	13423	MT ROBERTS TR	09 7 967	G W ARGUS	6642	GWA
45	ARCTICA x 118 STOLONIFERA												
1873	45			118	02	2	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6798	GWA
1873	45			118	02	2	5935	13629	MT GLAVE	14 7 967	G W ARGUS	6795	GWA
1873	45			118	14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6525	GWA
1873	45			118	14	10	5858	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6472	GWA
1873	45			118	14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6500	GWA
1873	45			118	14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6499	GWA
1873	45			118	14	10	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6516	GWA
71	ATHABASCENSIS X 15 PEDICELLARIS												
1873	71			15	01	36	5250	11804	ATHABASCA R	30 07 917	J M MACOUN	S.N.	CAN 95377
1873	71			15	01	36	5253	11805	JASPER	30 07 917	M O MALTE	S.N.	CAN 122167
1873	71			15	03	52	4954	09920	CARBERRY	12 06 906	J MACOUN	S.N.	CAN 70266
1873	71			15	07	391	6059	11715	ENT-MACK HY 44	16 07 959	J W THIERET	5402	GWA
1873	71			15	11	4	5954	10205	QUILLWORT LAKE	28 07 962	G W ARGUS	88062	DAO
1873	71			15	11	4	5954	10205	QUILLWORT LAKE	28 07 962	G W ARGUS	88062	GWA
1873	71			15	11	35	5237	10356	MCKAGUE	31 05 939	A J BREITUNG	106	DAO
1873	71			15	11	35	5237	10356	MCKAGUE	16 08 939	A J BREITUNG	438	DAO
1873	71			15	11	35	5237	10356	MCKAGUE	20 06 939	A J BREITUNG	167	DAO
1873	71			15	11	35	5237	10356	MCKAGUE	26 05 939	A J BREITUNG	82	DAO
1873	71			15	11	35	5237	10356	MCKAGUE	18 08 939	A J BREITUNG	448	DAO
1873	71			15	11	35	5237	10356	MCKAGUE	19 06 939	A J BREITUNG	166	DAO
1873	71			15	11	35	5237	10356	MCKAGUE	20 06 939	A J BREITUNG	168	DAO
1873	71			15	11	35	5237	10356	MCKAGUE	21 06 939	A J BREITUNG	174	DAO
1873	71			15	11	35	5237	10356	MCKAGUE	30 07 939	A J BREITUNG	363	DAO
1873	71			15	11	35	5237	10356	MCKAGUE	26 05 939	A J BREITUNG	82	CAN
1873	71			15	11	35	5237	10356	MCKAGUE	30 07 939	A J BREITUNG	363	CAN
1873	71			15	11	35	5237	10356	MCKAGUE	31 05 939	A J BREITUNG	106	CAN 49050
1873	71			15	11	35	5237	10356	MCKAGUE	09 06 940	A J BREITUNG	542	CAN 49057
1873	71			15	11	35	5237	10356	MCKAGUE	28 05 939	A J BREITUNG	94	CAN 49056
1873	71			15	11	35	5237	10356	MCKAGUE	31 05 939	A J BREITUNG	104	CAN 49135
1873	71			15	11	35	5237	10356	MCKAGUE	19 06 939	A J BREITUNG	166	CAN 49051
1873	71			15	11	35	5237	10356	MCKAGUE	18 08 939	A J BREITUNG	448	CAN 49052
1873	71			15	11	35	5237	10356	MCKAGUE	20 06 939	A J BREITUNG	167	CAN 49059
1873	71			15	11	35	5237	10356	MCKAGUE	31 05 939	A J BREITUNG	106	SASK 33706
1873	71			15	11	35	5237	10356	MCKAGUE	28 05 939	A J BREITUNG	94	SASK 33705
1873	71			15	11	35	5237	10356	MCKAGUE	28 05 939	A K BREITUNG	94	DAO
1873	71			15	12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5051	SASK 33988
1873	71			15	12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5045	SASK 33985
1873	71			15	12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5048	SASK 33996
1873	71			15	12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5051	GWA
1873	71			15	12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5045	GWA
1873	71			15	12	44	6003	12840	WATSON LAKE	25 06 966	G W ARGUS	5048	GWA
1873	71			15	12	44	6003	12840	WATSON LAKE	26 06 966	Y SUDA	14466	SASK 33993
1873	71			15	12	44	6003	12840	WATSON LAKE	25 06 966	Y SUDA	13366	SASK 33990
1873	71			15	12	44	6003	12840	WATSON LAKE	25 06 966	Y SUDA	13466	SASK 33992
1873	71			15	14	85	6322	14339	ALA HWY M 1335	08 08 944	H M RAUP	12713	CAN 278798
1873	71			15	14	85	6322	14339	ALA HWY M 1335	08 08 944	H M RAUP	12713	ALA 19484
87	BARCLAYI x 32 COMMUTATA												
1873	87			32	14	11	5825	13432	MENDENHALL GL	07 08 967	L A VIERECK	8638	GWA
87	BARCLAYI x 103 LANATA												
1873	87			103	14	86	6330	14550	FALLS CREEK	12 06 951	W CODY	5114	CAN
87	BARCLAYI x 118 STOLONIFERA												
1873	87			118	14	010	5858	13606	MUIR INLET, GL	29 6 967	G W ARGUS	6467	GWA
1873	87			118	14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6500	GWA
1873	87			118	14	010	5859	13606	MUIR INLET, GL	01 7 967	G W ARGUS	6520	GWA

Specimens Cited

```
TAXON SPC S V HYB PROV QUAD  LAT  LONG    LOCALITY      DATE     COLLECTOR NAME       COL NO HERB + NO


101 4     BRACHYCARPA SSP. NIPHOCLADA X  49 GLAUCA

1873  101 4     49  12    4  6826 13845 DOG CREEK        30  6 970 S L WELSH              10064 DTF    1188
1873  101 4     49  12    4  6838 13945 BABBAGE RIVER     9  7 970 S L WELSH              10409 DTF    1191
1873  101 4     49  12   32  6103 13831 KLUANE L         11 07 944 H M RAUP              12403  ALA  19946
1873  101 4     49  14   71  6155 15425 HEAD OF BIG R.    9  7 950 W H DRURY              4019A CAN
1873  101 4     49  14   80  6233 15336 FAREWELL L.       3  8 949 W H DRURY               2411 CAN
1873  101 4     49  14   86  6357 14547 RICH HWY M249    26 07 948 J P ANDERSON          10859  ISC 256687
1873  101 4     49  14   87  6340 14930 TEKLANIKA R      20 07 956 G W ARGUS               607  ALA   4579
1873  101 4     49  14   87  6340 14930 TEKLANIKA R      20 07 956 G W ARGUS               605  ALA   4577
1873  101 4     49  14   87  6340 14930 TEKLANIKA R      20 07 956 G W ARGUS               607  ALA  22464
1873  101 4     49  14   87  6340 14930 TEKLANIKA R      20 07 956 G W ARGUS               607  GWA
1873  101 4     49  14   87  6340 14930 TEKLANIKA R      20 07 956 G W ARGUS               605  GWA
1873  101 4     49  14   87  6340 14930 TEKLANIKA R      20 07 956 G W ARGUS               607  RM
1873  101 4     49  14   87  6340 14930 TEKLANIKA R      20 07 956 G W ARGUS               605  RM
1873  101 4     49  14   88  6330 15002 TOKLAT R         27 07 956 G W ARGUS               687  ALA   4695
1873  101 4     49  14   88  6328 15010 HIGHWAY PASS     21 07 956 G W ARGUS               622  GWA
1873  101 4     49  14   88  6328 15010 HIGHWAY PASS     21 07 956 G W ARGUS               622  RM
1873  101 4     49  14   88  6331 15004 TOKLAT R BAR     13 09 960 A   MURIE                 4  GWA
1873  101 4     49  14   88  6325 15035 MULDROW MORAIN 28 08 939 A   NELSON              4270  ISC 256219
1873  101 4     49  14   88  6325 15035 MULDROW MORAIN 28 08 939 A   NELSON              4270  ALA    513
1873  101 4     49  14   88  6325 15035 MULDROW MORAIN 28 08 939 A   NELSON              4270  GH
1873  101 4     49  14   88  6325 15035 MULDROW MORAIN 28 08 939 A   NELSON              4270  RM
1873  101 4     49  14   88  6325 15035 MULDROW MORAIN 28 08 939 A   NELSON              4270  NA
1873  101 4     49  14   88  6325 15035 MULDROW MORAIN 28 08 939 A   NELSON              4270  US
1873  101 4     49  14  100  6452 14750 COLLEGE          05 07 957 G W ARGUS              1089  ALA  16314
1873  101 4     49  14  100  6452 14750 COLLEGE          05 07 957 G W ARGUS              1089  GWA
1873  101 4     49  14  101  6412 14600 SHAW CR FLATS    18 08 964 L A VIERECK            7513  FSLC   286
1873  101 4     49  14  124  6725 15007 WISEMAN          31 07 939 J P ANDERSON           5817  ISC 256550
1873  101 4     49  14  124  6725 15007 WISEMAN          31 07 939 J P ANDERSON           5818  ISC 256548
1873  101 4     49  14  124  6725 15007 WISEMAN          31 07 939 J P ANDERSON           5817  ALA  27558
1873  101 4     49  14  124  6725 15007 WISEMAN          31 07 939 J P ANDERSON           5817  NA
1873  101 4     49  14  124  6725 15007 WISEMAN          31 07 939 J P ANDERSON           5818  NA

 92       PHLEBOPHYLLA X 105 ROTUNDIFOLIA

1873   92       105  14   41  5842 15640 NAKNEK           25 06 949 K   RAUP                  8  US 2176353
1873   92       105  14  104  6528 14527 EAGLE SUMMIT     21 06 964 V L HARMS              2791  ALA  32647
1873   92       105  14  104  6548 14639 VICTORIA MT      26 06 953 D   KLEIN                    ALA  23092
1873   92       105  14  124  6725 15006 WISEMAN          23 06 949 L H JORDAL             1970  ISC 256251
1873   92       105  14  145  6902 16350 CAPE BEAUFORT    23 07 966 G W ARGUS              5396  GWA
1873   92       105  14  145  6902 16350 CAPE BEAUFORT    23 07 966 G W ARGUS              5413  GWA
1873   92       105  14  152  7005 14335 BARTER ISLAND    07 08 966 G W ARGUS              5860  GWA
1873   92       105  14  153  7120 15640 BARROW           12 07 966 G W ARGUS              5173  GWA
1873   92       105  14  153  7120 15640 BARROW           11 07 966 G W ARGUS              5155  GWA
1873   92       105  14  153  7120 15640 BARROW           11 07 967 G W ARGUS              5158  GWA
1873   92       105  14  153  7120 15640 BARROW           25 07 966 Y   SUDA              24066  GWA

105 1     ROTUNDIFOLIA SSP. ROTUNDIFOLIA X 92 PHLEBOPHYLLA

1873  105 1     92  07  152  6813 13547 CANOE LAKE       20 06 964 J A LARSEN             7022  GWA
1873  105 1     92  14   86  6355 14730 DRY CREEK        25 06 962 L A VIERECK            5717  GWA
1873  105 1     92  14  129  6806 16545 OGOTORJK CREEK 11 08 966 G W ARGUS              5951  GWA
1873  105 1     92  14  138  6950 14220 NUVAGAPAK PT     09 08 966 G W ARGUS              5896  GWA
1873  105 1     92  14  138  6950 14220 NUVAGAPAK PT     09 08 966 G W ARGUS              5902  GWA
1873  105 1     92  14  138  6950 14220 NUVAGAPAK PT     09 08 966 G W ARGUS              5890  GWA
1873  105 1     92  14  138  6950 14220 NUVAGAPAK PT     09 08 966 G W ARGUS              5910  GWA
1873  105 1     92  14  145  6902 16350 CAPE BEAUFORT    24 07 966 G W ARGUS              5441  GWA
1873  105 1     92  14  145  6902 16350 CAPE BEAUFORT    24 07 966 G W ARGUS              5465  GWA
1873  105 1     92  14  147  7030 15730 MEADE RIVER PO 16 07 966 G W ARGUS              5284  GWA
1873  105 1     92  14  151  7010 14650 BULLEN           03 08 966 G W ARGUS              5724  GWA
1873  105 1     92  14  151  7010 14650 BULLEN           03 08 966 G W ARGUS              5731  GWA
1873  105 1     92  14  151  7010 14650 BULLEN           03 08 966 G W ARGUS              5730  GWA
1873  105 1     92  14  151  7010 14650 BULLEN           03 08 966 G W ARGUS              5729  GWA
1873  105 1     92  14  152  7005 14335 BARTER ISLAND    07 08 966 G W ARGUS              5856  GWA
1873  105 1     92  14  152  7005 14335 BARTER ISLAND    07 08 966 G W ARGUS              5858  GWA
1873  105 1     92  14  152  7005 14335 BARTER ISLAND    07 08 966 G W ARGUS              5872  GWA
1873  105 1     92  14  152  7005 14335 BARTER ISLAND    07 08 966 G W ARGUS              5857  GWA
1873  105 1     92  14  153  7125 15630 POINT BARROW     10 07 966 G W ARGUS              5124  GWA
1873  105 1     92  14  153  7125 15630 POINT BARROW     10 07 966 G W ARGUS              5123  GWA
1873  105 1     92  14  153  7120 15640 BARROW           31 07 966 G W ARGUS              5719  GWA

122   1  ALAXENSIS VAR. ALAXENSIS X 103 LANATA

1873  122 0 1 103  14  129  6815 16600 IBRULIKORAK CR 10 07 960 L H BELSON                 87  ALA  28687
```

```
TAXON SPC S V HYB PROV QUAD  LAT  LONG     LOCALITY       DATE     COLLECTOR NAME      COL NO HERB + NO


122   2  ALAXENSIS VAR. LONGISTYLIS X 122 ALAXENSIS

1873  122    2 122   2     4  5847 12502 MACDONALD CR     8  5 960 J A CALDER           24352 ALA  17325
1873  122    2 122  12    10  6003 12840 WATSON LAKE     25  6 966 G W ARGUS             5025 GWA
1873  122    2 122  14    10  5837 13625 GEIKIE INLET    29  6 928 J P ANDERSON           754 TSC 255872
1873  122    2 122  14    34  5713 15318 OLD HARBOR          6 964 F   BROOKS              29 ALA  26534
1873  122    2 122  14    46  5908 13822 ALSEK R FLATS   10  6 965 L A VIERECK           7602 GWA
1873  122    2 122  14    69  6157 14710 EUREKA LODGE    28  6 965 S L WELSH             4460 TSC 246037
1873  122    2 122  14    86  6320 14535 RAINBOW MT      30  6 966 C   PARKER            RM19 ALA  32685
1873  122    2 122  14    94  6430 16525 NOME            11  6 938 J P ANDERSON          3239 TSC 255859
1873  122    2 122  14    94  6455 16508 SALMON LAKE     14  7 966 S L WELSH             5900 GWA
1873  122    2 122  14    96  6402 16055 EGAVIK          11  8 931 C H ROUSE               16 ALA   2062
1873  122    2 122  14    96  6402 16055 EGAVIK          11  8 931 C H ROUSE               18 ALA   2057
1873  122    2 122  14    96  6402 16055 EGAVIK          11  8 931 C H ROUSE               18 ALA  25458
1873  122    2 122  14    96  6402 16055 EGAVIK          11  8 931 C H ROUSE               16 ALA  25456
1873  122    2 122  14   100  6452 14750 COLLEGE          7  7 966 G W ARGUS             5109 GWA
1873  122    2 122  14   100  6452 14750 COLLEGE          7  7 966 G W ARGUS             5115 GWA
1873  122    2 122  14   100  6452 14750 COLLEGE          7  7 966 G W ARGUS             5117 GWA
1873  122    2 122  14   100  6452 14750 COLLEGE         13  7 957 G W ARGUS             1012 GWA
1873  122    2 122  14   100  6452 14750 COLLEGE         13  7 957 G W ARGUS             1012 ALA   6719
1873  122    2 122  14   100  6452 14750 COLLEGE          7  7 966 G W ARGUS             5118 GWA
1873  122    2 122  14   100  6430 14905 NENANA          19  6 965 V L HARMS             3720 ALA  32583
1873  122    2 122  14   101  6522 14556 TWELVE MI CR    17  6 957 S   SHETLER           86AF ALA   3734
1873  122    2 122  14   101  6410 14455 GERSTLE RIVER   16  7 957 L A SPETZMAN           601 ALA   6840
1873  122    2 122  14   101  6410 14455 GERSTLE RIVER   31  7 957 L A SPETZMAN           975 ALA   6841
1873  122    2 122  14   101  6432 14703 LTL SALCHA R    20  5 966 L A VIERECK           7884 GWA
```

Bibliography

Anderson, J. P.
(1959). *Flora of Alaska and adjacent parts of Canada.* Iowa State Univ. Press, Ames, Iowa.

Andersson, N. J.
(1858). Salices Boreali-Americanae: a synopsis of North American willows. *Proc. Amer. Acad. Arts and Sci. 4: 3-32.*

(1867). Monographia Salicum. *Kgl. Svenska Vetenskapsakad. Handl.* 6: 1-180.

(1868). *Salix.* Pages 190-331 *in* A.P. de Candolle, *Prodromus systematis naturalis regni vegetabilis.* Vol. 16. Victor Masson, Paris.

Argus, G. W.
(1964). Preliminary reports on the flora of Wisconsin, no. 51: Salicaceae; the genus *Salix* — the willows. *Wis. Acad. Sci., Arts and Letters* 53: 217-72.

(1965*a*). The taxonomy of the *Salix glauca* complex in North America. *Contrib. Gray Herb., Harvard Univ.* 196: 1-142.

(1965*b*). An endemic subspecies of *Salix reticulata* L. from the Queen Charlotte Islands, British Columbia. *Can. J. Bot.* 43: 1021-24.

(1966). Botanical investigations in northeastern Saskatchewan: the subarctic Patterson-Hasbala Lakes region. *Can. Field Natur.* 80: 119-43.

(1969). New combinations in the *Salix* of Alaska and Yukon. *Can. J. Bot.* 47: 795-801.

Baker, H. G.
(1959). Reproductive methods as factors in speciation in flowering plants. *Cold Spring Harbor Symp. Quant. Biol.* 24: 177-90.

Ball, C. R.
(1934). New or little known west American willows. *Univ. Calif. Publ. Bot.* 17: 399-434.

(1950). A review of *Salix anglorum* and *Salix petrophila. Amer. Midland Natur.* 43: 224-41.

(1951). New combinations in *Salix* (sections *Pellitae* and *Phylicifoliae*). *Amer. Midland Natur.* 45: 740-49.

Blackburn, K. B., and J. W. Heslop-Harrison
(1924). A preliminary account of the chromosomes and chromosome behaviour in the Salicaceae. *Ann. Bot.* 38: 361-78.

Bliss, L. C., and J. C. Cantlon
(1957). Succession on river alluvium in northern Alaska. *Amer. Midland Natur.* 58: 452-69.

Boivin, B.
(1966). Énumération des plantes du Canada. II. Lignidées. *Natur. can.* 93: 371-437.

(1967). Flora of the Prairie Provinces. Pt. 1. *Phytologia* 15: 121-59, 329-446; 16: 1-47.

Breitung, A. J.
(1957). Annotated catalogue of the vascular flora of Saskatchewan. *Amer. Midland Natur.* 58: 1-72.

Cain, S. A.
(1944). *Foundations of plant geography.* Harper, New York.

Coville, F. V.
(1900). The tree willows of Alaska. *Proc. Wash. Acad. Sci.* 2: 275-86.

(1901). The willows of Alaska. *Proc. Wash. Acad. Sci.* 3: 297-362.

Crocker, R. L., and J. Major
(1955). Soil development in relation to vegetation and surface age at Glacier Bay, Alaska. *J. Ecol.* 43: 427-48.

Cronquist, A.
(1964). *Salix.* Pages 37-71 *in* C. L. Hitchcock et al., Vascular plants of the Pacific Northwest. Pt. 2. *Univ. Wash. Publ. Biol.* 17.

Crovello, T.
(1968). A numerical taxonomic study of the genus *Salix,* section *Sitchenses. Univ. Calif. Publ. Bot.* 44: 1-61.

Dalla Torre, K.W.V., and H. Harms
(1900-1907). *Genera Siphonogamarum.* G. Engelmann, Leipzig.

Davis, P. H., and V. H. Heywood
(1963). *Principles of angiosperm taxonomy.* Oliver and Boyd, Edinburgh and London.

Decker, H. F.
(1966). Plants. Pt. 4. Pages 73-94 *in* A. Mirsky, Soil development and ecological succession in a deglaciated area of Muir Inlet, southeast Alaska. *Ohio State Univ. Inst. Polar Stud. Rep.* 20.

Drury, W. H., Jr.
(1962). Patterned ground and vegetation on southern Bylot Island, Northwest Territories, Canada. *Contrib. Gray Herb., Harvard Univ.* 190: 1-111.

Du Rietz, G. E.
(1930). The fundamental units of biological taxonomy. *Svensk Bot. Tidskr.* 24: 333-428.

Ehrendorfer, F.
(1965). Dispersal mechanisms, genetic systems, and colonizing abilities in some flowering plant families. Pages 331-51 *in* H. G. Baker and G. L. Stebbins, *The genetics of colonizing species.* Academic Press, New York.

Enander, S. J.
(1907). *Studier öfver Salices i Linnés herbarium.* Akademiska Bokhandeln (C. J. Lundström), Uppsala.

Federova-Sarkissova, O. V.
(1946). On the chromosome number of certain

willow and poplar species. *C.R. (Dokl.) Acad. Sci. URSS* 54: 353-56.

Fisher, M. J.
(1928). The morphology and anatomy of the flowers of the Salicaceae. *Amer. J. Bot.* 15(5): 307-26; 15(6): 372-94.

Floderus, B.
(1926). On the *Salix* flora of Kamtchatka. *Kgl. Svenska Vetensk.-Akad. Ark. Bot.* 20A: 1-68.
(1933). Salices Peninsulae Anadyrensis. *Kgl. Svenska Vetensk.-Akad. Ark. Bot.* 25A: 1-12.
(1937). *Salix.* Pages 146-53 *in* E. Hultén, *Flora of the Aleutian Islands.* Bokförlags aktiebolaget Thule, Stockholm.

Fries, E.
(1832). *Novitiae Florae Suecicae.* Vol. 1. Ex Officina Berlingiana, Lund, Sweden.

Gjaervoll, O.
(1963). Botanical investigations in central Alaska, especially in White Mts. Pt. 2: Dicotyledones. Salicaceae-Umbelliferae. *Kgl. Nor. Vidensk. Selsk. Skr. Artic.* 4: 3-115.

Hakansson, A.
(1933). Die konjugation der chromosomen bei einigen *Salix*-Basterden. *Hereditas* 18: 199-214.
(1955). Chromosome numbers and meiosis in certain salices. *Hereditas* 41: 454-82.

Hedberg, O.
(1967). Chromosome numbers of vascular plants from arctic and subarctic North America. *Ark. Bot.* 6: 309-26.

Heribert-Nilsson, N.
(1918). Experimentelle studien über Variabilität, Spaltung, Artbildung und Evolution in der Gattung *Salix. Lunds Univ. Arsskr.* N. F., Avd. 2, 14(28): 125-45.
(1930). Synthetische Bastardierungs-versuche in der Gattung *Salix. Lunds Univ. Arsskr.* N. F., Avd. 2, 27(4): 1-97.
(1935). Die Analyse der synthetisch hergestellten *Salix laurina. Hereditas* 20: 339-53.

Heusser, C. J.
(1960). Late-Pleistocene environments of North Pacific North America. *Amer. Geol. Soc. Spec. Publ.* 35: 1-308.

Hiitonen, I.
(1950). Über die gemeinsamen Züge der Floren von Nordamerika und Fennoskandien, nebst einem Blick auf die *Salix*-Flora des östlichen Nordamerikas. *Memo. Soc. Fauna Flora Fenn.* 25: 72-86.

Holmberg, O. R.
(1963). *Skandinaviens Flora,* 1b, h1. P. A. Norstedt, Stockholm.

Holmen, K.
(1952). Cytological studies in the flora of Peary Land, north Greenland. *Medd. Grønland* 128: 3-40.

Hooker, W. J.
(1838). *Flora Boreali-Americana.* Vol. 2. H. G. Bohn, London.

Hultén, E.
(1937). *Flora of the Aleutian Islands.* Bokförlags aktiebolaget Thule, Stockholm.
(1940). Two new species of *Salix* from Alaska. *Svensk Bot. Tidskr.* 34: 373-76.
(1943). Flora of Alaska and Yukon. Vol. 3. *Lunds Univ. Arsskr.* N. F., Avd. 2, 39(1): 415-567.
(1967). Comments on the flora of Alaska and Yukon. *Ark. Bot.* Ser. 2, 7: 1-147.
(1968). *Flora of Alaska and neighboring territories.* Stanford Univ. Press, Stanford, Calif.
(1969). Vascular plants. Pages 56-95 *in* T. Karlstrom and G. Ball, eds. *The Kodiak Island refugium: its geology, flora, fauna and history.* Ryerson, Toronto.

Johnson, A. W., and J. G. Packer
(1968). Chromosome numbers in the flora of Ogotoruk Creek, N.W. Alaska. *Bot. Notis.* 121: 401-56.

Jorgensen, G., T. Sørensen, and M. Westergaard
(1958). The flowering plants of Greenland: a taxonomic and cytological survey. *Biol. Skr. Kgl. Dansk. Vidensk. Selsk.* 9: 1-172.

Kimura, A.
(1934). *Salix.* Pages 26-32 *in* M. Tatewaki and Y. Kobayashi, A contribution to the flora of the Aleutian Islands. *J. Fac. Agr. Hokkaido Imp. Univ.* 36.

Lanjouw, J., and F. A. Stafleu
(1964). Index Herbariorium. Pt. 1: The herbaria of the world. 5th ed. *Regnum Veg.* 31: 1-251.

Linnaeus, C.
(1753). *Species plantarum.* Salvii Laurentii, Stockholm.
(1763). *Species plantarum.* 2nd ed. Salvii Laurentii, Stockholm.

Löve, A.
(1954). Cytotaxonomical evaluation of corresponding taxa. *Vegetatio* 5-6: 212-24.

Löve, A., and D. Löve
(1948). Chromosome numbers of northern plant species. *Iceland Univ. Inst. Appl. Sci., Dep. Agr., Rep.* B, 3: 1-131.
(1956). Cytotaxonomical conspectus of the Icelandic flora. *Acta Horti Gotoburg.* 20: 65-290.

(1961). Some nomenclatural changes in the European flora. II: Subspecific categories. *Bot. Notis.* 114: 48-56.

(1964). Page 202 *in* A. Löve and O. Solbrig, I.O.P.B. chromosome number reports, II. *Taxon* 13.

Löve, A., and J. Ritchie
(1966). Chromosome numbers from central northern Canada. *Can. J. Bot.* 44: 429-39.

Mosquin, T.
(1966). Reproductive specialization as a factor in the evolution of the Canadian flora. Pages 43-65 *in* R. L. Taylor and R. A. Ludwig, *The evolution of Canada's flora.* Univ. Toronto Press, Toronto.

Mosquin, T., and D. E. Hayley
(1966). Chromosome numbers and taxonomy of some Canadian Arctic plants. *Can. J. Bot.* 44: 1209-18.

Nasarov, M. H.
(1936). *Salix.* Pages 24-216 *in* V. L. Komarov, *Flora URSS* [in Russian]. Vol. 5. Acad. Sci. URSS, Moscow.

Orth, D. J.
(1967). Dictionary of Alaska place names. *U.S. Geol. Surv. Prof. Pap.* 567: 1-1084.

Porsild, A. E.
(1951). Botany of southeastern Yukon adjacent to the Canol Road. *Nat. Mus. Can. Bull.* 121: 1-400.

Raup, H. M.
(1934). Phytogeographic studies in the Peace and upper Liard River regions, Canada. *Contr. Arnold Arboretum, Harvard Univ.* 6: 1-230.

(1943). The willows of the Hudson Bay region and the Labrador Peninsula. *Sargentia* 4: 81-127.

(1959). The willows of boreal western America. *Contrib. Gray Herb., Harvard Univ.* 185: 1-95.

Rechinger, K. H.
(1964). *Salix.* Pages 43-54 *in* T. G. Tutin, et al., eds. *Flora Europea.* Vol. 1. Cambridge Univ. Press.

Rowlee, W. W.
(1907). Two new willows from Canadian Rocky Mountains. *Bull. Torrey Bot. Club* 34: 157-159.

Schneider, C.
(1917). *Salix.* Pages 40-179 *in* C. S. Sargent, Plantae Wilsonianae. Vol. 3. *Publ. Arnold Arboretum, Harvard Univ.* 4.

(1918*a*). Notes on American willows I: The species related to *Salix arctica* Pall. *Bot. Gaz.* 66: 117-42.

(1918*b*). Notes on American willows. II: The species related to *Salix glauca* L. *Bot. Gaz.* 66: 318-53.

(1919*a*). Notes on American willows. III: A conspectus of American species and varieties of sections *Reticulatae, Herbacecae, Ovalifoliae*, and *Glaucae. Bot. Gaz.* 67: 27-64.

(1919*b*). Notes on American willows. IV: Species and varieties of section *Longifoliae. Bot. Gaz.* 67: 309-46.

(1919*c*). Notes on American willows. VI: The species of the sections *Phylicifoliae* and *Sitchenses. J. Arnold Arboretum, Harvard Univ.* 1: 67-97.

(1920). Notes on American willows. X: The species of the sections *Fulvae* and *Roseae. J. Arnold Arboretum, Harvard Univ.* 2: 65-90.

(1921). Notes on American willows XII: *J. Arnold Arboretum, Harvard Univ.* 3: 61-125.

Skvortsov, A. K.
(1957). Commentationes de morphologia et systematica Salicacearum [in Russian]. *Not. Syst. Leningrad* 18: 34-47.

(1961). Willows of the section *Phylicifoliae* Dumort. in the flora of USSR [in Russian]. *Byull. Mosk. Obshchest. Ispyt. Prir. Otd. Biol.* 66: 26-33.

(1966). Salicaceae. Pages 7-118 *in* A. I. Tolmatchev, *Flora Arctica URSS* [in Russian]. Vol. 5. "Nauka", Moscow.

(1968). Willows of the USSR: a taxonomic and geographic revision [in Russian]. *Mater. Posnaniyu Fauny Flory SSSR Otd. Bot.* vyp. 15: 5-261.

Sokolovskaja, A., and O. Strelkova
(1941). Polyploidy and karyological races under conditions in the Arctic [in Russian]. *Dokl. Akad. Nauk SSSR,* N.S. 32: 144-47.

(1948). Geographical distribution of polyploids [in Russian]. *Uch. Zap. LGU* 66: 179-93.

(1960). Geographic distribution of the polyploid species of plants in the Eurasian Arctic [in Russian]. *Bot. Zh.* 45: 369-381.

Soper, J. H.
(1964). Mapping the distribution of plants by machine. *Can. J. Bot.* 42: 1087-1100.

Spetzman, L. A.
(1959). Vegetation of the Arctic slope of Alaska. *U.S. Geol. Surv. Prof. Pap.* 302-B: 1-58.

Stearn, W. T.
(1962). Systematics Association Committee for Descriptive Biological Terminology II: Terminology of simple symmetrical plane shapes (Chart 1). *Taxon* 11: 145-56, 245-47.

(1966). *Botanical Latin.* Nelson, London.

Stebbins, G. L.
(1950). *Variation and evolution in plants.* Columbia Univ. Press, New York.

Suda, Y., and G. W. Argus
(1968). Chromosome numbers of some North American *Salix. Brittonia* 20: 191-97.

(1969). Chromosome numbers of some North American arctic and boreal *Salix. Can. J. Bot.* 47: 859-62.

Taylor, R., and G. Mulligan
(1968). Flora of the Queen Charlotte Islands. Pt. 2: Cytological aspects of the vascular plants. *Can. Dep. Agr., Res. Br. Monog.* 4. Queen's Printer, Ottawa.

Thomas, J. H.
(1957). The vascular flora of Middleton Island, Alaska. *Contrib. Dudley Herb.* 5: 39-56.

Trautvetter, E. R.
(1847). Florula boganidensis phanerogama. Pages 144-67 *in* A. T. von Middendorff, *Reise in den äusserten Norden und Osten Sibiriens.*

Viereck, L. A.
(1966). Plant succession and soil development on gravel outwash of the Muldrow Glacier, Alaska. *Ecol. Monogr.* 36: 181-99.

Wahlenberg, G.
(1812). *Flora Lapponica.* Berlin, in taberna libraria scholae realis.

Wiggins, I. L., and J. H. Thomas
(1962). A flora of the Alaskan Arctic slope. *Arctic Inst. N. Amer., Spec. Publ.* 4.

Wilkinson, J.
(1944). The cytology of *Salix* in relation to its taxonomy. *Ann. Bot.* 8(30-31): 269-84.

Willdenow, C. L.
(1806). *Caroli a Linné Species plantarum.* Vol. 4, pt. 2. 4th ed. G. C. Nawk, Berlin.

Zhukova, P. G.
(1967). Chromosome numbers in some species of plants of the northeastern part of the USSR [in Russian]. Pt. 2. *Bot. Zh.* 52: 983-87.

(1968). Chromosome numbers in some plant species from the northeast of the USSR [in Russian]. Pt. 3. *Bot.Zh.* 53: 365-68.

(1969). Chromosome numbers in some species of plants in the northeastern USSR [in Russian]. Pt. 4. *Bot. Zh.* 54: 1985-90.

alaxensis, 5, 13, 14, 15, 18, 19, 181, 182, 186, 187, 188, 189, 264
alaxensis, alaxensis, 5, 10, 14, 15, 18, 19, 20, 29, 172, **181 – 85,** 264
alaxensis, longistylis, 5, 29, 180, **182 – 85,** 187, 188, 189, 266
alaxensis, obovalifolia, 181, 185
alaxensis × lanata ssp. richardsonii, 8, 269
albertana, 175
aliena, 77
amplifolia, 131, 134
anadyrensis, 161
anglorum, 61, 81
anglorum, antiplasta, 81
anglorum, araioclada, 81
anglorum, kophophylla, 81, 84
Arbuscella (Section), 5, 10, **157,** 164
arbusculoides, 5, 8, 14, 15, 18, 19, 20, 33, **168 – 71,** 188, 189, 210
arbusculoides, glabra, 169, 171
arbutifolia, 113
arctica, 5, 10, 13, 15, 17, 18, 19, 26, 52, 71, 75, **80 – 85,** 88, 89, 93, 101, 103, 110, 111, 164, 214
arctica, antiplasta, 81, 84
arctica, araioclada, 81, 84
arctica, arctica, 84
arctica, crassijulis, 81, 83
arctica, kophophylla, 81, 84
arctica, torulosa, 81, 84
arctica × barclayi, 7, 268
arctica × glauca, 7, 85, 268
arctica × ovalifolia, 7, 71, 85, 89, 268
arctica × stolonifera, 7, 75, 76, 85, 268
arctogena, 6
arctolitoralis, 66
arctophila, 5, 10, 19, 26, 85, **108 – 11,** 229
athabascensis, 5, 10, 18, 34, 99, 101, **102 – 07,** 117, 119, 231
athabascensis × pedicellaris, 7, 8, 119, 267
aurita × repens, 6

babylonica, 5, 31, **41 – 43,** 197
balsamifera, 147
barclayi, 5, 13, 14, 18, 19, 32, 75, 120, 127, **128 – 31,** 133, 134, 139, 172, 238
barclayi, angustifolia, 129
barclayi, commutata, 135
barclayi, grandifolia, 129
barclayi, padophylla, 125
barclayi, pseudomonticola, 125
barclayi, rotundifolia, 129
barclayi × commutata, 8, 268
barclayi × lanata ssp. richardsonii, 8, 268
barclayi × stolonifera, 8, 75, 268
barrattiana, 5, 19, 20, 30, **174 – 77,** 242
bebbiana, 5, 15, 18, 19, 33, **148 – 53,** 197
bebbiana, bebbiana, 151
bebbiana, depilis, 149, 151
bebbiana, perrostrata, 149, 151
behringica, 53, 57
bella, 186, 189
bicolor, 163
blakii, 45
boganidensis, 171
brachycarpa, 5, 19, 93, 101, 247
brachycarpa, brachycarpa, 5, 10, 18, 34, 85, **89 – 94,** 247
brachycarpa, glabellicarpa, 89
brachycarpa, mexiae, 92
brachycarpa, niphoclada, 5, 10, 14, 15, 18, 19, 26, 34, **90 – 94,** 103, 247
brachycarpa, psammophila, 91
brachycarpa, sansonii, 91
brachycarpa ssp. niphoclada × glauca, 7, 269
brachystachys, 153
brachystachys, scouleriana, 153

calcicola, 173
candida, 5, 10, 18, 33, **176 – 79,** 183, 200

candida, denudata, 177
candidula, 177
caprea, 10, 151, 153, 155
capreoides, 153
Caprisalix (Subgenus), 164
Chamaetia (Section), 5, 10, **45**
chamissonis, 5, 10, 18, 19, 25, 52, 85, **106 – 09**, 111, 241
chlorophylla, 157
chlorophylla, nelsonii, 157
cinerascens, occidentalis, 149
cinerea, 10
(cinerea × purpurea) × caprea, 6
(cinerea × purpurea) × (purpurea × viminalis), 6
coaetanea, 155
commutata, 5, 8, 13, 18, 19, 20, 31, 75, 120, 131, **135 – 39**, 209
commutata, denudata, 135, 139
commutata, mixta, 135
commutata, puberula, 135
commutata, sericea, 135, 139
commutata × myrtillifolia, 139
conjuncta, 129
cordata, 121
cordata, mackenzieana, 123
cordata, monticola, 124
cordata, rigida, 121
cordata × rostrata, 123
Cordatae (Section), 5, 10, **121**
coulteri, 191
crassijulis, 81, 83, 84
cuneata, 85
cyclophylla, 67

depressa, 151
depressa, rostrata, 149, 151
desertorum, 95
desertorum, fruticulosa, 89
desertorum, stricta, 89
discolor, 105, 155, 157
drummondiana, 5, 10, 18, 19, 30, 184, **186 – 89**, 264
drummondiana, bella, 186
drummondiana, subcoerulea, 186

exigua, interior, 43, 54
exigua, interior, pedicellata, 43

fallax, 103
farrae, 119, 120
farrae, microserrulata, 119
farrae, walpolei, 119
flagellaris, 65
flavescens, 153
flavescens, capreoides, 153
flavescens, scouleriana, 153
fluviatilis, 45
fragilis, 16
fulcrata, subglauca, 159
fumosa, 109
fuscescens, 5, 10, 15, 18, 19, 26, 28, **112 – 15**, 220
fuscescens, hebecarpa, 115
fuscescens, reducta, 113

glacialis, 8, 68
glauca, 5, 10, 14, 15, 17, 34, 41, 52, 85, 93, 94, **95 – 103**, 105, 107, 164, 222
glauca, acutifolia (Western phase), 5, 18, 19, **95 – 103**, 224
glauca, alicea, 95
glauca, desertorum, 95
glauca, desertorum, sericea, 95
glauca, glabrescens, 95
glauca, glauca (Beringia phase), 5, 18, 19, **95 – 103**, 222
glauca, niphoclada, 91
glauca, perstipula, 95
glauca, poliophylla, 95
glauca, villosa (Rocky Mountain phase), 5, 18, 19, **95 –103**, 228
Glaucae (Section), 1, 5, 10, **81**
glaucops, glabrescens, 95
glaucops, villosae, 95
glaucosericea, 100

hastata, 5, 10, 15, 18, 19, 32, **118 – 20**, 131, 137, 213
hastata, farrae, 119
hastata, psiloides, 119
Hastatae (Section), 5, 10, **119**
hebecarpa, 115
herbacea × polaris, 6
hookeriana, 5, 16, 18, 19, 29, 32, 56, **131 – 35**, 230

humillima, 169

interior, 5, 10, 16, 18, 31, **42–45**, 200

krylovii, 179
kurilensis, 88

lanata, 5, 151, 173
lanata, richardsonii, 5, 10, 14, 15, 18, 19, 29, 129, 131, **170–73**, 177, 254
Lanatae (Section), 5, 10, **171**
lancifolia, 35
lasiandra, 5, 10, 14, 16, 18, 19, 32, **35–38**, 195, 230
lasiandra, lancifolia, 35
lasiandra, lasiandra, 38
lasiandra, recomponens, 35, 38
leiocarpa, 53
lingulata, 92
livida, 153
livida, occidentalis, 149
livida, rostrata, 149
longifolia, 43
longifolia, pedicellata, 43
Longifoliae (Section), 4, 5, 10, 16, **43**, 45
longipetiolata, 88
lucida, 37, 41

maccalliana, 5, 10, 18, 20, 33, **38–41**, 232
Maccallianae (Section), 4, 5, 10, **38**
mackenzieana, 123, 124
mackenzieana, macrogemma, 123
melanopsis, 45
monica, 157
monticola, 5, 10, 18, 19, 29, **124–29**, 232
muriei, 92
myrsinites, 109, 111, 143
myrsinites, curtiflora, 140, 143
myrsinites, pseudomyrsinites, 140, 143
myrtillifolia, 5, 10, 14, 18, 27, 31, 120, 127, 131, 137, 139, 143, **145–47**, 233
myrtillifolia, curtiflora, 140
myrtillifolia, pseudomyrsinites, 8, 140, 143
myrtilloides, 115, 119
myrtilloides, pedicellaris, 115
Myrtilloides (Section), 5, 10, **113**
Myrtosalix (Section), 5, 10, **107**

nakamurana, 88
nelsonii, 157
niphoclada, 91
niphoclada, mexiae, 92
niphoclada, muriei, 92
novae-angliae, 5, 8, 18, 31, 120, 127, 131, 137, 138, **140–45**, 246
novae-angliae, myrtillifolia, 145
novae-angliae, pseudocordata, 140, 143
novae-angliae, pseudomyrsinites, 140, 143
nummularia, 5, 10, 19, 20, 27, 57, **59–61**, 234
nummularia, tundricola, 59
nuttallii, 153
nuttallii, capreoides, 153

orbicularis, 45
ovalifolia, 5, 17, 52, 56, 69, 70, 75, 76, 88, 234
ovalifolia, arctolitoralis, 5, 19, 28, **66**, 68, **69–71**, 236
ovalifolia, camdensis, 65
ovalifolia, cyclophylla, 5, 19, 28, **67–71**, 237
ovalifolia, glacialis, 5, 8, 19, 25, 51, **68–71**, 236
ovalifolia, ovalifolia, 5, 10, 19, 28, 51, **64–71**, 234

pachnophora, 186
padifolia, 124, 125
padophylla, 125, 129
paleoneura, 61
parallelinervis, 159
pedicellaris, 5, 10, 18, 32, 105, **114–19**, 201
pedicellaris, athabascensis, 103
pedicellaris, hypoglauca, 115

pedicellaris, tenuescens, 115
pellita, 186, 187
pennata, 157
pentandra, 5, 31, **35**, 201
Pentandrae (Section), 4, 5, 10, **35**, 41
perrostrata, 149
phlebophylla, 5, 10, 15, 18, 19, 25, 52, 56, 57, **61 – 63**, 71, 243
phlebophylla × rotundifolia, 8, 56, 269
phylicifolia, 6, 10, 163, 164, 166
phylicifolia, pennata, 157
phylicifolia, planifolia, 157, 158
phylicifolia, subglauca, 159
phylicoides, 159
planifolia, 5, 10, 105, 157, 162, 163, 201
planifolia, monica, 157
planifolia, nelsonii, 157
planifolia, planifolia, 5, 10, 18, 30, **157 – 67**, 201
planifolia, pulchra, 5, 10, 14, 15, 18, 19, 20, 30, 63, 76, 158, **159 – 67**, 172, 204
planifolia, pulchra, yukonensis, 5, 14, 18, 30, **161 – 67,** 203
planifolia ssp. pulchra × scouleriana, 8, 267
polaris, 5, 10, 18, 19, 25, **49 – 52**, 57, 252
polaris, leiocarpa, 53
polaris, pseudopolaris, 49
polaris, selwynensis, 49, 52
pseudocordata, 140, 143, 145
pseudomonticola, 125
pseudomonticola, padophylla, 125
pseudopolaris, 49, 52
pulchra, 159, 163, 164
pulchra, anadyrensis, 161, 163
pulchra, kalarica, 159, 163
pulchra, looffiae, 159, 167
pulchra, palmeri, 159, 167
pulchra, parallelinervis, 159, 163
pulchra, yukonensis, 161
purpurea, 117
pyrenaica, 101
pyrifolia, 5, 19, 31, **147 – 49**, 201
rectijulis, 107
(repens × phylicifolia) × (viminalis × phylicifolia), 6
repens × viminalis, 6
reptans, 93, 101
reticulata, 5, 10, 13, 14, 15, 18, 19, 45, 47, 48, 56, 75, 76, 250
reticulata, gigantifolia, 45
reticulata, glabellicarpa, 5, 8 – 9, 18, 25, **46 – 49**, 254
reticulata, glabra, 45
reticulata, orbicularis, 45
reticulata, reticulata, 5, 18, 25, **45 – 49**, 250
reticulata, subrotunda, 45
reticulata, villosa, 45, 48
retusa, 79
Retusae (Section), 5, 10, **49**
richardsonii, 171, 173
rigida, 5, 10, 18, 20, 29, 32, **121 – 24**, 127, 131, 201
rigida, mackenzieana, 123, 124
rigida, macrogemma, 123
rostrata, 149
rostrata, perrostrata, 149
rotundifolia, 5, 10, 15, 18, 53, 56, 256
rotundifolia, dodgeana, 5, 18, 19, 27, **54 – 58**, 258
rotundifolia, pilosiuscula, 56
rotundifolia, rotundifolia, 5, 18, 19, 27, **53 – 58**, 59, 63, 71, 256

Salix (Genus), **24**
Salix (Subgenus), 164
saxatilis, 109
scouleriana, 5, 10, 17, 18, 19, 30, **152 – 57**, 192, 258
scouleriana, brachystachys, 153
scouleriana, coetanea, 154
scouleriana, flavescens, 153
scouleriana, poikila, 153, 157
scouleriana, thompsoni, 154
serissima, 37
setchelliana, 5, 14, 18, 27, **77 – 79**, 260
Sitchenses (Section), 1, 4, 5, 10, 191

sitchensis, 5, 10, 13, 14, 16, 18, 33, 75, 157, **190 – 92**, 261
sitchensis, congesta, 191
sitchensis, coulteri, 191
sitchensis, denudata, 191
speciosa, 181
speciosa, alaxensis, 181
sphenophylla, 5, 10, 19, 20, 26, 28, **85 – 89**, 210
sphenophylla, pseudotorulosa, 85, 88
stagnalis, 153
starkeana, 153
stipulifera, 101
stolonifera, 5, 13, 18, 26, 28, 52, 57, **72 – 77**, 131, 262
stricta, 89
Subalbae (Section), 4, 5, **41**
subcoerulea, 186

torulosa, 81, 83, 84, 88
tundricola, 59, 61

vagans, 153
vagans, cinerascens, occidentalis, 149
vagans, rostrata, 149
vestita, 49
Vetrix (Section), 5, 10, **149**
villosa, 95
Villosae (Section), 5, 10, **177**
viminalis, 10
viminalis × aurita, 6
viminalis × caprea, 6
viminalis × cinerea, 6

walpolei, 119, 120

xerophila, 149, 153

CALIF ACAD OF SCIENCES LIBRARY
3 1853 00050 6795